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## INFORMATION REPORT INFORMATION REPORT

## CENTRAL INTELLIGENCE AGENCY

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COUNTRY North Korea

REPORT

SUBJECT

Organization and Operation of the  
Namp'o Smelter (organization,  
facilities + planned  
expansion)

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REFERENCES

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THIS IS UNEVALUATED INFORMATION. SOURCE GRADINGS ARE DEFINITIVE. APPRAISAL OF CONTENT IS TENTATIVE.

1. General outline of the National Namp'o Smelter.
2. Guide to attached sketch of the smelter and associated facilities.
3. Organization of the smelter.
4. Function of departments and installations of the smelter.
5. Production processes.
6. Remuneration and grain distribution.
7. Party and social organizations.
8. Technical training of employees.
9. Construction plans.
10. Sketch of Namp'o smelter

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I. DetailsNational Namp'o SmelterGeneral Outline:

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1. The installations of the National Namp'o Smelter under the Minerals Management Bureau, Ministry of Metals Industry were located in the area of YC 1189. The construction of this smelter was begun [redacted]

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The smelter produced blister copper, which was then [redacted] to be processed into gold, silver, and copper. It is believed that zinc smelting was also conducted at the smelter prior to the Liberation. Following the Liberation, the smelter came under the control of the North Korean Government and produced blister copper and zinc. Approximately 60 - 70 percent of the facilities of the smelter were destroyed during the Korean War. The reconstruction of the smelter was begun after the Armistice in 1953, and the Copper Smelting Plant, the Zinc Smelting Plant, and the Copper Electrolysis Plant have since been completed. One construction battalion, composed mainly of repatriated POWs, cleared the war-destroyed installations of the smelter, and performed reconstruction foundation works. This smelter was and is still being reconstructed with part of the one billion-dollar aid fund given to NK by the Soviet Union after the Korean War. The Copper Smelting Plant began producing blister copper [redacted]. The total production goal of blister copper was 420 tons [redacted] and 480 tons [redacted].

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It was generally said that the Copper Smelting Plant had been able to achieve only the national production goal [redacted] (approximately 380 tons). The Zinc Smelting Plant was established with completely new facilities imported either from the Soviet Union or Czechoslovakia. The installing of machinery and equipment of this plant was conducted under the supervision of seven or eight Soviet engineers [redacted].

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The Zinc Smelting Plant, which went into operations on an assembly-line system [redacted] consisted of the calcination, liquefaction, electrolysis, and casting processes. [redacted]

The Copper Electrolysis Plant was completed and put into operations [redacted]

This plant was equipped with completely new facilities imported either from the Soviet Union or Czechoslovakia. As auxiliary installations of the above three principal plants, the smelter had the Power Department, Engineering Department, Transportation Department, Construction Plant, Civil Engineering Plant, Combined Plant, Construction Assembly Plant, etc.

The workers of this smelter were mostly engaged in hazardous and heavy work. Approximately 4,000 persons were employed at the smelter. Of these, approximately 3,200 were males and 800 were females. The majority of the male workers of the smelter were veterans of the MPA, and 500 to 600 of them were ex-POWs who had returned to North Korea [redacted]

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It was said that the number of the employees of this smelter would be increased to 8,000 - 10,000. Copper and zinc ores mined at approximately 30 mines in North Korea were smeltered and processed at this smelter. the smelter produced copper plates (100 cm long, 80 cm wide, and 1 cm thick), gold ingots, silver ingots, zinc blocks (40 cm long, 20 cm wide, 5 cm high), and zinc flower. It was expected that the smelter would produce selenium, fertilizer, cadmium, and sulfuric acid. This smelter, being operated on the "independent accounting system" and the "uni-management system", was an important financial source (foreign exchange) of the heavy industry of North Korea. The smelter was being developed into a first-grade industrial establishment of North Korea producing finished mafic minerals.

Guide to Above Installation Sketch of National Namp'o Smelter : 50X1-HUM

2. 1) Coastal Unloading Site. Transportation Department. Business Deputy Manager: This unloading site was approximately 200 meters long and 100 meters wide. The dock was constructed of granite stones. There were two winches, a few hoists, and one liftfork at this unloading site. Those foreign-made equipment were installed at the unloading site.
- 2) Office of Construction Assembly Plant & Lathe Workshop. Construction Manager: This was a one-story wooden barrack, approximately 20 meters long, eight meters wide, and three meters high, with a slate roof. The building was partitioned into two sections, one used as the office and the other as the lathe workshop. This building, constructed immediately after the Armistice, will be replaced with a permanent building in the future.
- 3) Casting Workshop. Zinc Smelting Plant. Production Engineer: This workshop was a two-story structure, approximately 20 meters square and five meters high, with concrete walls and a slate roof. One third of the workshop was two-story while the remainder was one-story. This workshop was connected with the Zinc Electrolysis Workshop (11 and 12). There were two casting furnaces made of bricks under the instructions of the Soviet engineers (seven or eight) at this workshop. The casting furnaces were each approximately four meters long, two meters wide, and four meters high.
- 4) Corridor Connecting Casting Workshop and Electrolysis Zinc Flower Workshop. Zinc Smelting Plant: This corridor was approximately ten meters long, three meters wide, and three meters high. It had slate sidings and a slate roof. Zinc blocks (40cm x 20cm x 5 cm) produced at the Casting Workshop were transported by means of trolleys to the Electrolytic Zinc Flower Workshop (5).

CONFIDENTIAL  
NOFORN

-4-

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- 5) Electrolytic Zinc Flower Workshop, Casting Workshop, Zinc Smelting Plant: This building was approximately 20 meters long, ten meters wide, and five meters high, and had red brick walls and a slate roof. Inside the building, there was one zinc flower furnace, two meters long, four meters wide, and four meters high; approximately ten tarpaulin bags for containing zinc flowers; and one electro-motor. ( ) Comment: 50X1-HUM  
The construction of all the buildings of the Zinc Smelting Plant was completed ( ) 50X1-HUM
- 6) Industrial Service Water Pump Operation Room, Water Workshop, Power Department, Production Engineer: This was a one-story concrete building, approximately 15 meters long, five meters wide, and three meters high, with a slate roof. There were three water pumps of foreign make at this room. Each pump had an accessory electro-motor of 50 or 60 horsepower (HP). 50X1-HUM
- 7) Site of Fertilizer Factory under Construction: Three plants were being built at this construction site, which was approximately 50 meters wide and 100 meters long. The construction of these plants started ( ) and ( ) only iron structures of the plants 50X1-HUM  
had been completed. It is not known what or how much fertilizer this factory would produce. 50X1-HUM
- 8) 10 Transformers, Transformer Workshop, Power Plant, Production Engineer: There were approximately ten transformers of 33,000 voltage at this place. These transformers transformed the power which they received from the Yusa-ri Transformer Station in Namp'o-si.
- 9) Transformer Workshop, Power Plant, Production Engineer: This was a two-story structure, approximately 40 meters long, 20 meters wide, and six meters high, with cement walls and a slate roof. There were an unknown number of mercury distillers and some switchboards inside this building. Part of the building was used as the office of the Transformer Workshop.
- 10) Air Compressor Operation Room, Electrolysis Workshop, Zinc Smelting Plant, Production Engineer: This was a one-story structure, approximately ten meters long, five meters wide, and three meters high, with gray cement walls and a tile roof. There were an unknown number of compressors in this room.
- 11) Room for Additional Electrolytic Cells under Construction, Electrolysis Workshop, Zinc Smelting Plant, Production Engineer: This part of the Electrolysis Workshop was approximately 50 meters long, 2.5 meters wide, and five meters high. Approximately 160 electrolytic cells were to be installed in this quarter ( ) Each electrolytic cell 50X1-HUM  
was a concrete tank approximately 2.5 meters long, 1.5 meters wide, 1.3 meters high, and ten centimeters thick. Part of the building was used as the office of the Construction Pipe Making Plant.

CONFIDENTIAL

-5-

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- 12) Office and Shop of Electrolysis Workshop, Zinc Smelting Plant, Production Engineer: This part of the Electrolysis Workshop was approximately 40 meters long, 25 meters wide, and five meters high. There were approximately 160 electrolytic cells in this part of the workshop.
- 13) Cadmium Plant under Construction, Production Engineer: This was a two-story structure, approximately 40 meters long, 20 meters wide, and six meters high, with a slate roof. [redacted] only the outside structure of the building had been completed. An unknown number of 50X1-HUM electrolytic cells were to be installed in this building.
- 14) Office and Shop of Liquefaction Workshop, Zinc Smelting Plant, Production Engineer: This was a concrete structure, approximately 50 meters long, 40 meters wide, and eight meters high, with a slate roof. The building was completed [redacted] There were an unknown number of dilute 50X1-HUM sulphuric acid tanks, an unknown number of electro-motors (five horsepower), one restroom, and one bathroom at this workshop.
- 15) Zinc Ore Unloading Site, Zinc Smelting Plant, Production Engineer: Zinc ores produced at various mines of North Korea were transported by train to this unloading site, which was approximately 50 meters long and 30 meters wide.
- 16) Zinc Warehouse, Transportation Department, Business Deputy Manager: This was a one-story structure, approximately 20 meters square and five meters high, with slate walls and a slate roof. There was one crane and a belt conveyor at this warehouse. The conveyor, approximately 300 meters long and one meter wide, transported zinc ore to the Calcination Workshop.
- 17) Conveyor Shelter: This slate-walled and slate roofed conveyor shelter, approximately 60 meters long, four meters wide, and three meters high, sheltered part of the above conveyor.
- 18) Calcination Workshop, Zinc Smelting Plant, Production Engineer: This was a three-story structure, approximately 30 meters square and nine meters high, with slate walls and a slate roof. At this workshop, there were three calcination furnaces of unknown size, one switchboard, seven fans, three electro-motors (70 horsepower), and an unknown number of transformers.
- 19) Sulfuric Acid Plant, Production Engineer: This red brick-walled plant under construction [redacted] was approximately 30 meters 50X1-HUM long, 20 meters wide, and of an unknown height. Approximately 50 percent of the structure had been completed as of that time.
- 20) Office & Laboratory of Experiment & Analysis Department, Production Engineer: This was a two-story structure, approximately 30 meters long,

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15 meters wide, and six meters high, with concrete walls and a slate roof. This building was jointly used as the office (second floor), Propaganda Office (second floor), Party and Social Organization Office, of the Zinc Smelting Plant; the Eutrophic Restaurant (first floor) for the workers of the Zinc Smelting Plant and the Copper Electrolysis Plant; the office (1st floor) and laboratory (1st and second floor) of the Experiment & Analysis Department; and the Research Department office.

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- 21) Copper Sulphate Plant, Production Engineer: [redacted] only the foundation work of this plant had been completed. The foundation was approximately 30 meters long and 20 meters wide. [redacted]

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- 22) Planer Workshop, Combined Plant, Construction Engineer: This one-story wooden structure was approximately 20 meters long, ten meters wide, and three meters high. The structure had one slate roof. There were two planers, three motors, and one conveyor installed at the workshop.
- 23) Lumber Mill, Combined Plant, Construction Engineer: This was a one-story structure, approximately 30 meters long, 15 meters wide, and three meters high, with wooden board walls and a slate roof. At this mill there was one bolt saw, two round saws, one electro-motor, and two moving platforms for sawing logs.
- 24) Furniture Manufacturing Workshop, Combined Plant: This was a one-story structure approximately 20 meters long, ten meters wide, and three meters high, with red brick walls and a cement tile roof. There were an unknown number of carpentry tools at this workshop.
- 25) Office & Propaganda Room, Combined Plant: One-story red brick building, approximately 20 meters long, eight meters wide, and three meters high, with a gray cement tile roof.
- 26) Slime Workshop, Copper Electrolysis Plant, Production Engineer: This was a three-story red-brick structure, approximately 30 meters long, 20 meters wide, and nine meters high, with a slate roof and screened windows. The floors and inside walls of the building were inlaid with tiles. There were an unknown number of sulfuric acid tanks of various sizes, electro-motors, switchboards, bathrooms, guard rooms, and exhaust fans at the workshop. The office of the Copper Electrolysis Plant was located on the first floor of the building.
- 27) Electrolysis Workshop, Copper Electrolysis Plant: This was a two-story red brick structure, approximately 40 meters long, 30 meters wide, and eight meters high, with a slate roof. On the second floor of the building, there were approximately 150 electrolytic cells and two large

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washing tanks, two cranes of foreign make, one cutter of foreign make, the office room and rest room of the workshop. On the first floor of the building, there was one large dilute sulfuric acid tank, two drilling machines, two scales, two exhaust fans and two electro-motors, one switchboard, two large transformers, five pumps and five electro-motors.

- 28) Central Bathhouse, Life Direction Department, Supply Deputy Manager: This was an L-shaped, red-brick building, with a cement tile roof. One side of the L was 15 meters long, six meters wide, and six meters high (two-story); and the other side was approximately ten meters long, five meters wide and four meters high. [redacted] the outside structure of this building had been completed. 50X1-HUM
- 29) Sintering Workshop, Copper Smelting Plant, Production Engineer: This was a one-story structure, approximately 80 meters long, 25 meters wide, and six meters high, with iron plate walls and a slate roof. Approximately ten hoppers were attached to the front wall of the building. Inside the wall, there were approximately ten sintering furnaces, two battery-powered transport cars, one diesel spraying car, one fire-igniting car, one conveyor transporting crushed and mixed ore containing gold, silver, and copper from the Mixing Workshop (41) to this shop.
- 30) Restroom & Bathroom, Sintering Workshop, Copper Smelting Plant: this was a slag brick structure, approximately 15 meters long, six meters wide, and four meters high, with a slate floor. Part of this building was two-story.
- 31) 600-Foot Chimney, Copper Smelting Plant, Production Engineer: This chimney, whose diameter measured approximately 16 meters, was constructed around 1930. It was said that the wall of the top part of the chimney was extremely thick. Because of strafing during the War, there were some holes in the chimney but they were all mended. The top part of the chimney had a downward crack, which could be seen on clear days.
- 32) Smoke Tunnel, Copper Smelting Plant: This U-shaped overground tunnel was approximately 50 meters long, six meters wide, and three meters high. An underground quarter for extracting valuable minerals from the smoke was located along the length of the smoke tunnel.
- 33) Two Old Chimneys, Copper Smelting Plant: These two old chimneys, each measuring approximately 40 meters long and made of cement concrete, were first constructed in 1920. The two chimneys were, however, abandoned when the 600-foot chimney was constructed in 1930.

CONFIDENTIAL  
NOFORN

-8-

CONFIDENTIAL

NOFORN

- 34) Ore Lump Workshop, Copper Smelting Plant, Production Engineer: This was a one-story structure, approximately 30 meters long, 15 meters wide, and seven meters high, with slate walls and a slate roof. One part of the inside of the workshop was terraced into three stages for operations' sake. As facilities, the workshop had one vertical conveyor, approximately 21 meters long and 50 cm wide; one horizontal conveyor, approximately eight meters long and 70 centimeters wide; one electro-motor powered metal molds for turning out rectangular ore lumps each measuring approximately six centimeters long, three centimeters wide, and two centimeters high; three large transformers; and an unknown number of electro-motors. This workshop used the steam sent by the Central Boiler Room (45) to melt the crushed ore mixed with pitch.
- 35) Bathhouse, Power Plant: This was a one-story structure, approximately 15 meters long, eight meters wide, and three meters high, with walls made of rough wooden boards coated with cement and a cement tile roof. This bathhouse, divided into two quarters for males and females, were for the employees of the Copper Smelting Plant. For heating water, this bathhouse had relied on its boiler, and one electro-motor powered fan [redacted] when it began receiving hot steam from the Central Boiler Room. 50X1-HUM
- 36) Office & Propaganda Room, Copper Smelting Plant: This one-story structure, approximately 30 meters long, six meters wide, and 2.5 meters high, was actually a two buildings combined, i.e., the office and the propaganda room. The office had cement walls and a cement tile roof, while the propaganda room was made of slag bricks and had a slate roof.
- 37) Drainage Basin, Copper Smelting Plant: This drainage basin constructed of stones and then coated with cement measured approximately 35 meters long, eight meters wide, and 2.5 meters deep. The basin was partitioned into two compartments. The hot water, from the furnaces of the copper smelting plant was first drained into the first compartment of the basin before it was finally drained through the drainage (54) into the reservoir (81). The second compartment was used for draining the water out into the Taedong-gang through an underground culvert just in case there was a flood or something happened to the drainage. This drainage basin was necessary for extracting slag from the water.
- 38) Slag Elevators, Repair Workshop, Copper Smelting Plant: There were two wooden board buildings, each measuring five meters long, four meters wide and three meters high. Each building accommodated one "elevator" which was a number of chained buckets scooping up slag from the furnaces and emptying it into a large container. This slag was, then, dumped into the open field.

CONFIDENTIAL

NOFORN

-9-



CONFIDENTIAL  
NOFORN

- 39) Principal Workshop, Copper Smelting Plant: This one-story structure, approximately 100 meters long, 30 meters wide, and six meters high, was the principal workshop of the Copper Smelting Plant. Installed in this building were two blast furnaces (five meters tall and three meters in diameter), two crucibles (1.2 meters deep and four meters in diameter), two [redacted] converters (three meters long and 1.5 meters in diameter), one electro-furnace (three meters long, two meters wide, and 1.5 meters deep), two cranes [redacted], five electro-motors, two old [redacted] winches, one grinder, one electro-motor, one rock drill, ten rectangular copper molds each measuring one meter long, 80 centimeters wide, and five centimeters deep. [redacted] the process of emptying molten ore into the molds must have been completely mechanized [redacted] In addition to the above facilities, there was a scale for weighing blister copper blocks and a drilling machine which was used for analyzing the copper element of the blister copper. 50X1-HUM 50X1-HUM 50X1-HUM 50X1-HUM
- 40) Sinter Storage, Copper Smelting Plant: This concrete building was a two-story structure measuring approximately 50 meters long, ten meters wide, and five meters high. The building had a slate roof. Sinter lumps produced by the Sintering Workshop were brought by an electric car and were stored in this storage. Part of this building was also used as the repair workshop.
- 41) Mixing Workshop, Copper Smelting Plant: This one-story concrete structure measured 30 meters long, ten meters wide, and five meters high, and had a slate roof. Crushed copper ore was mixed with silicon, lime and some other unknown minerals or chemicals at this workshop.
- 42) Fuel Conveyor, Sintering Workshop, Copper Smelting Plant: This belt conveyor, measuring approximately 260 meters long and one meter wide, hauled fuel (coal and coke) from the Anthracite Storage (65) and silicon, lime, and some chemicals or minerals to the Mixing Workshop given above. One-third of the fuel conveyor was sheltered by a slate-walled and slate-roofed structure, approximately 100 meters long, three meters wide, and 2.5 meters high.
- 43) Copper Ore Conveyor, Sintering Workshop, Copper Smelting Plant: This conveyor, very much similar in size with the above fuel conveyor, conveyed copper ore from the copper ore stockpile located near the Copper Ore Unloading Site (69) to the Sintering Workshop. This conveyor was also sheltered in a similar fashion as the fuel conveyor given above.
- 44) Office and Workshop, Inspection Department, Business Deputy Manager: This one-story structure was approximately 20 meters long, 15 meters wide, and three meters high, and had cement walls and a cement tile roof. This building accommodated one air compressor and an electro-motor; ten crushers and ten electro-motors; one drying room; one packing room; and one office-room.

CONFIDENTIAL  
NOFORN  
-10-

CONFIDENTIAL

NOFORN

- 45) Office of Service Water Workshop and Central Boiler Room, Power Plant, Production Engineer: This three-story concrete structure was approximately 30 meters long, 15 meters wide, and nine meters high. On the first floor of the building, there were approximately ten electro-motors and ten water pumps, and one winch. Installed on the second floor and extending through the third floor were approximately five boilers. One bathroom and a two-room office were located on the third floor. The boilers used coal probably brought from the Aoji Coal Mine. One belt conveyor, approximately 50 meters long and one meter wide, hauling coal ran from outside to the second floor of the building. The steam produced by the five boilers was used for heating and industrial purposes by the smelter.
- 46) Office of Party and Social Organizations, Namp'o Smelter: This red-brick one-story structure measured approximately 25 meters long, 25 meters wide, and three meters high, and had a cement tile roof. Two rooms of the building were used by the Party Committee of the smelter, one room by the Democratic Youth League Committee, one room by the Democratic Women's League Committee, five rooms by the Trade League Committee. In addition to these, the building had one toilet, one bathroom, one conference room, and one "charge of quarters" room.
- 47) Precious Metals Workshop, Copper Electrolysis Plant, Production Engineer: This flat-roofed, concrete, three-story structure measured approximately 25 meters long, 15 meters wide, and eight meters high. This building was encircled by a wall made of cement-cinder-sand blocks. The wall was approximately 20 centimeters thick and 2.5 meters high. This was the only installation of the Namp'o Smelter which was surrounded by a wall or fence. There was one industrial guard at the main gate of the workshop. The inside walls and floors of the building were inlaid with tiles. [REDACTED]
- 48) Offices of Construction Power Workshop, of Architectural Plant, and of Civil Engineering Plant: This concrete three-story building was approximately 30 meters long, 15 meters wide, and eight meters high. The third and second floor were gradually smaller. The third floor was used as the office of the Construction Power Workshop, while the second floor was used as the offices of the Architectural Plant and the Civil Engineering Plant. The first floor was used as the Daytime School giving elementary technical education to approximately 100 middle-school age students.
- 49) Oxygen Workshop, Engineering Department, Production Engineer: This was a one-story concrete structure, approximately 15 meters long, seven meters wide, and three meters high, with a cement tile roof. This workshop produced all the oxygen which was needed by the Namp'o Smelter for industrial purpose.

50X1-HUM

CONFIDENTIAL

NOFORN

-11-

CONFIDENTIAL

NOFORN

- 50) Unidentified Building under Construction: This red brick building was approximately 15 meters long, ten meters wide, and three meters high, and had a cement tile roof. Approximately 90 percent of the building structure had been completed [redacted] It was not known 50X1-HUM for what purpose this building would be used.
- 51) Steel Casting Workshop, Engineering Department, Production Engineer: This structure, measuring approximately 15 meters long, ten meters wide, and four meters high, had wooden board walls and a cement tile roof. At this workshop, there were one melting furnace, one mold section, one crane, two iron pans, one fan, one electro-motor, and one rest room. The steel castings from this workshop were sent to the Lathe Workshop of the Engineering Department to be given final touches.
- 52) Residential Area, Namp'o Smelter: Located in this residential area north of the street running from east to west were approximately 30 slag-brick one-story houses, each with a red tile roof. Each house was designed to accommodate two families, and had one joint kitchen and four rooms. In fact, however, four families were crowded in each of these houses. Located south of the street were five rows of tenement-houses. Each tenement-house was approximately 30 meters long, six meters wide, and three meters high, and had mud-walls and a straw roof. There were three such houses in each row. Each house was originally designed to accommodate approximately five families, but approximately ten families were actually living in each house. Whereas the slag brick houses were completed [redacted] these mud-walled houses were built immediately after the Armistice. The long-time workers of the smelter and their families were living in this residential area. 50X1-HUM
- 53) Well: This well was approximately two meters square and five meters deep. The people living in the above residential area drank the water from this well.
- 54) Drainage of Cooling Water from Furnaces of Copper Smelting Plant: This drainage, measuring approximately 400 meters long, one meters deep, and one meters wide, was used for draining the cooling water from the furnaces of the Smelting Plant into the reservoir (81) under the jurisdiction of the Repairing Workshop of the Copper Smelting Plant. The water from the reservoir was drained into the underground water storage containing approximately 300 tons of water located near the 600-foot chimney (31).
- 55) Restroom and Wooden Mold Shop, Casting Workshop, Engineering Department, Production Engineer: This was a one-story slag-brick building, approximately 15 meters long, five meters wide, and three meters high, with a cement tile roof. There were some carpenter tools and a lathe at the wooden mold shop.

CONFIDENTIAL

NOFORN  
-12-

CONFIDENTIAL  
NOFORN

- 56) Office, Casting Workshop, Engineering Department: This one-story, red-brick building was approximately six meters long, four meters wide, and three meters high, and had a cement tile roof.
- 57) Mold Shop, Casting Workshop, Engineering Department: This one-story wooden board building was approximately ten meters long, five meters wide, and four meters high, and had a cement tile roof. There was one [ ] crane at this shop. 50X1-HUM
- 58) Shop, Casting Workshop, Engineering Department: This one-story structure was approximately seven meters long, five meters wide, and three meters high, and had old iron plate walls and an iron plate roof. One casting furnace made of fire-proof bricks, was located outside the building. There was another mold-making section inside the building.
- 59) Repair Workshop Office, Telephone Exchange, and Office, of the Power Department; and the Office and Lathe Workshop of the Engineer Department: This concrete building was approximately 80 meters long, 30 meters wide, and six meters high, and had a flat concrete roof. Located on the second floor was the office of the Engineering Department, office of the Power Department, and the telephone exchange. Located on the first floor was the Lathe Workshop of the Engineering Department, the Electro-Motor Repair Shop, and Propaganda Room of the Power Plant. The Lathe Workshop of the Engineering Department had ten foreign-made lathes, three old [ ] drilling machines, three new foreign-made shapers, two new foreign-made cranes, one resting room, one office room, one storage room, and one bathroom. 50X1-HUM
- 60) Boiler - Forge Workshop, Engineering Department, Production Engineer: This red-brick, one-story structure was approximately 30 meters long, ten meters wide, and five meters high, and had a cement tile roof. The workshop had one forge, two air-hammers (make unknown), one restroom, one electric welder, approximately three oxygen welders, and some other miscellaneous tools. One outdoor blacksmith shop was attached to the building. Part of the building was also used as the workshop of the Engineering Department.
- 61) Special Diet Restaurant, Copper Smelting Plant: This was a one-story red-brick structure, approximately 15 meters long, five meters wide, and three meters high, with a cement tile roof. This restaurant was operated 24 hours a day for the workers of the Copper Smelting Plant engaged in hazardous work. The workers entitled to eat at this restaurant were: sintering workers, mixing workers, exhaust fan operators, in-putting workers, furnace workers, repairmen, converter operators, crane operators, and slag workers. At this restaurant, the workers ate lunches (rice) which they had brought from their homes, together with soup (pork), pork, fish, soybean oil, canned food, and sugar which were all furnished by the restaurant. According to the

CONFIDENTIAL  
NOFORN  
-13-

CONFIDENTIAL

NOFORN

gravity of the hazard of the work they performed, the workers were graded from I to III and the extra nutritious food furnished to them varied according to the grades. The nutritious food Grade I workers were: sintering workers, in-putting workers, furnace workers, and converter operators. The Grade II workers were: mixing workers, crane operators, and slag workers. The Grade III workers were: exhaust fan operators and repairmen.

- 62) Fan Blower Operation Room, Repair Workshop, Copper Smelting Plant, Production Engineer: This was a one-story structure, approximately 50 meters long, 30 meters wide, and five meters high, with cement walls and a slate roof. This room furnished hot-blast to two smelting furnaces and two converters of the Copper Smelting Plant. This room also furnished air blast to the nearby blacksmith shops. As its facilities, the fan blower operation room had two 600 HP motored fans (3,300 voltage), one 500 HP motored fan (3,300 voltage), one 350 HP motored fan (2,200 voltage), one 300 HP motored fan (2,200 voltage), one 50 HP motored air compressor (4,400 voltage), one 30 HP motored air-compressor (4,400 voltage), one 30 HP generator (Soviet made), 50 batteries, one switchboard, six resistors, one crane, one 5 HP motors, ten 2-3 HP motors, three 0.25 HP motors, two electric clocks (Soviet made). With the exception of the generator and two electric clocks, all of these facilities had been manufactured [redacted] prior to Liberation. These fans and other equipment were old but still functioned well. All they had to do with them was to replace the bearings (babbits) occasionally. The machine oil, engine oil, and grease used at this room were all foreign products. 50X1-HUM  
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- 63) Switchboard Station, Power Department, Production Engineer: This was a one-story cement block structure, approximately 20 meters long, eight meters wide, and three meters high, with a flat concrete roof. This switchboard station furnished power, which it received from the Transformer Workshop of the Power Department, to the offices and workshops of the Engineering Department and the Power Department of the Namp'o Smelter. The voltage of the power furnished by this switchboard were: 3,300 voltage, 2,200 voltage, 440 voltage, 220 voltage, and 110 voltage.
- 64) Electric Car Repair Station, Power Department: This one-story red-brick building was approximately ten meters long, five meters wide, and four meters high, and had a cement tile roof. All the electric cars used by the Namp'o Smelter for transporting purpose were repaired at this station. There were some repair tools at the station, and one electric car track extended from outside into the station.
- 65) Anthracite Storage, National Namp'o Smelter: This was an outdoor storage, approximately ten meters in diameter. [redacted] 50X1-HUM  
[redacted] The anthracite was used by the smelter for production purpose and for distributing to the workers of the smelter. 50X1-HUM

CONFIDENTIAL

-14-

NOFORN

CONFIDENTIAL

NOFORN

- 66) Copper Ore Unloading Site, Transportation Department, Business Deputy Manager: This copper unloading site located along the railroad track was approximately 100 meters long and 40 meters wide.
- 67) Inclined Railroad Embankment for Unloading Copper Ore, Transportation Department: The gradient of this embankment was approximately 45 degrees.
- 68) Office, Transportation Department: This was a one-story concrete structure, approximately 20 meters long, six meters wide, and 2.5 meters high, with a flat roof.
- 69) Copper Ore Unloading Site, Transportation Department: Powder ore contained in straw bags were unloaded here. The straw bags were burnt and processed in order to extract copper ore elements from the ash. This rectangular unloading site was approximately 200 meters long and 100 meters wide.
- 70) Locomotive Repair Station, Transportation Department: This repair station, consisted of one building and a repair pit sheltered inside the building. The building was approximately ten meters long, eight meters wide, and five meters high, and had slate walls and a slate roof.
- 71-1) Freight-Car Weighing Site, Transportation Department: The shack sheltering the scale was approximately five meters long, three meters wide, and two meters high, and had slag brick walls and a slate roof. Each freight-car transporting materials in and out of the Namp'o Smelter was weighed at this place.
- 71) Warehouse, Warehouse Department, Business Deputy Manager: This one-story red-brick building was approximately 50 meters long, 20 meters wide, and four meters high, and had a cement tile roof. All the labor protection materials used by the Namp'o Smelter were stored at this warehouse and the following warehouse (72).
- 72) Warehouse, Warehouse Department, Business Deputy Manager: The structure and usage of this warehouse was the same as those of the above warehouse (71).
- 73) Pond: This was a natural pond used for no special purpose. Some workers of the smelter fished in this pond.
- 74) Clinic, Namp'o Smelter: This one-story structure was approximately 15 meters long, six meters wide, and three meters high, and had cement walls and a cement tile roof. One doctor, one pharmacist, and three nurses manned this clinic. In addition to this clinic, there was a dispensary (location unknown) for the female workers of the smelter. Light cases were treated at this clinic, and serious cases were sent to the P'yongan-nando Central Hospital in Namp'o-si.

CONFIDENTIAL

-15-

NOFORN

CONFIDENTIAL

50X1-HUM

NOFORN

- 75) Residence for Clinic Staff: The structure of this building was almost the same as that of the above clinic.
- 76) Consignment Store, Namp'o Smelter Store, Namp'o-si Commercial Management Station: This one-story store, made of wooden boards, was approximately six meters long, three meters wide, and 2.5 meters high, and had a cement tile roof. This store sold foodstuffs, confectionary goods, and beverages to the workers of the Namp'o Smelter.
- 77) Residential Area, Namp'o Smelter: This hilly residential area was crowded with houses of motley shapes. Some of them had mud-walls and slate or cement tile roofs, while others were made of slag bricks and had iron plate roofs. Approximately 200 families lived in this area.
- 78) South Gate Sentry Box, Industrial Guard Unit, Manager: This wooden board guard box was approximately 2.5 meters square and two meters high, and had a cement tile roof. There was a crank-style telephone at this sentry box, and the telephone was connected with the telephone at the Office of the Industrial Guard Unit located near the main gate of the smelter. At this sentry box, there was a guard with a Russian rifle 24 hours a day, on a three-shift system. The guard situation was the same at five other sentry boxes of the smelter. Each guard box had a telephone.
- 78-1) West Gate Sentry Box, Industrial Guard Unit, Manager: The structure of this guard box was the same as that of 78 above.
- 78-2) North Gate Sentry Box, Industrial Guard Unit, Manager: The structure of this guard box was the same as that above.
- 79) Bridge over Electric-Car Tracks: This bridge was approximately 15 meters long and two meters wide, and was approximately three meters above the surface of the river.
- 80) Floodgate, Reservoir, Repair Workshop, Copper Smelting Plant: There were two floodgates at the reservoir (81). The metal floodgates were each approximately three meters high and 1.5 meters wide. The floodgates were opened in case of a flood tide and were closed in case of an ebb tide.
- 81) Reservoir: This artificially created reservoir was approximately 180 meters long, 60 meters wide, and three meters deep. The water from this reservoir was used by the Copper Smelting Plant.
- 82) Water Pump Operation Room: This one-story building was approximately 20 meters long, ten meters wide, and three meters high, and had cement walls and a cement tile roof. There were three water pumps, each powered

CONFIDENTIAL

-16-

NOFORN

CONFIDENTIAL

50X1-HUM

NOFORN

by a 100 HP electro-motor (2,200 voltage). There were three switchboards at this place. The water from the reservoir was pumped up by the three pumps to the 3,000-ton underground tanks near the 600-foot chimney.

- 83) Documents Storage. Confidential Documents Officers. Manager: This one-story concrete building was approximately four meters square and three meters high, and had a flat roof. Old confidential documents were kept at this storage.
- 84) Office Building: This one-story structure was approximately 40 meters long, 15 meters wide, and three meters high, and had cement walls and a combination roof, part of which was sheet metal roof and the other part a cement tile roof. This building was used as the Construction Chief Engineer's office, the Construction Deputy Engineer's office, office of the Draft Processing Department, office of the Draft Budget Department, both under the Business Deputy Manager; bookkeeping office; Savings Office under the Namp'o-si Branch (Korean Central Bank); office of the Technical Department; and the office of the Facilities Management Department.
- 85) Office Building: This one-story building, measuring approximately 20 meters long, 15 meters wide, and four meters high, with cement walls and a cement tile roof, was used as the offices of the Planning Department and the Technical Safety Department. One toilet and an abandoned boiler room were attached to the building.
- 86) Chimney of the above boiler: The concrete chimney, approximately 20 meters long and 1.5 meters in diameter, was not in use.
- 87) Office Building: This two-story structure was approximately 30 meters long, 15 meters wide, and six meters high, and had cement walls and one cement tile roof. This was the main office building of the Namp'o Smelter. The second floor of the building was used as the office of the manager, office of a confidential documents officer, office of the business deputy manager, office of the production chief engineer, and office of the production instructor. The first floor was used as the office of the supply deputy manager, office of the Training Department, office of the Staff Department, office of a confidential documents officer, office of the Life Direction Department, office of the Administrative Accounting Department, office of the Labor Department, and the Office Supply Storage.
- 88) Mimeograph Room & Manager's Garage: This one-story red-brick building was approximately ten meters long, five meters wide, and three meters high, and had a cement tile roof.
- 89) Blueprint Storage: This concrete structure, measuring approximately 15 meters long, six meters wide, and three meters high, was covered with

CONFIDENTIAL

NOFORN

-17-



CONFIDENTIAL  
NOFORN

50X1-HUM

turf. All the blueprints and technical documents were kept at this storage. One confidential documents officer, using a telephone, worked at this place.

- 90) Office, Industrial Guard Unit, Manager: This guard house located right beside the main gate was a one-story house, approximately ten meters square and three meters high, with mud-walls and a cement tile roof. There were two dial telephones and one clank telephone at this office. There were a number of boxes for receiving the attendance cards of workers at the office.
- 91) Office, Automotive Repair Station, Transportation Department, Business Deputy Manager: This one-story red-brick structure, measuring ten meters long, four meters wide, and three meters high, had a cement tile roof. This office was actually used by the workers of the station as a restroom and for keeping their equipment. There was a dial telephone at this office. Minor repairing of trucks was conducted outside this office.
- 92) Main Gate Sentry Box, Industrial Guard Unit, Manager: This wooden board guard box was approximately one meter square and two meters long.
- 93) Vacant Plot, Nam'o Smelter Club: This turfed vacant plot located in front of the club of the smelter was approximately 200 meters long and 100 meters wide. One circular concrete stage for tap-dancing and Korean dancing was installed at one part of the open plot in 1956. At this plot, the workers rested and sometimes played volleyball.
- 93-1) Gasoline Storage, Warehouse Department, Business Deputy Manager: This outdoor storage for gasoline, grease, and oil used by automobiles of the smelter was approximately 30 meters square. The storage was encircled by a barbed wire fence. A wooden shack, approximately three meters square and two meters high, was standing in the storage yard. There were approximately 50 drums of gasoline at the yard.
- 94) Club, Nam'o Smelter: This one-story structure was approximately 50 meters long, 20 meters wide, and four meters high, and had cement walls and a cement tile roof. The building was partitioned into one library, one stage room, one motion picture hall, one intra-mural broadcasting room, and a storage for keeping an unknown number of violins, guitars, mandolins, "Kayagum", long drums, and round drums, etc. There was one piano in the stage room. Motion pictures were shown two or three times a day every day. Ten Wm was deducted monthly from the salary of each worker for having seen the motion pictures. The workers each paid 50 Wm for seeing a stage show performed by outside troupes.
- 95) Coke Storage, Transportation Department, Business Deputy Manager: This outdoor coke storage was approximately 40 meters long and 20 meters square.

CONFIDENTIAL  
NOFORN  
-18-

CONFIDENTIAL

NOFORN

- 96) Water Pump Operation Room, Service Water Workshop, Power Department, Production Engineer: This one-story concrete structure was approximately 15 meters long, eight meters wide, and three meters high, and had a flat roof. The water pumped up by this installation was used by the Zinc Smelting Plant. There were five foreign-made pumps and five 50 HP electro-motors at this room.
- 97) Residential Security Officer's Office, Namp'o-si Internal Affairs Station: This one-story structure was approximately eight meters long, five meters wide, and three meters high, and had lime-coated walls and a cement tile roof. There were approximately five security officers headed by a major at this office.
- 98) Sentry Box, Industrial Guard Unit: This sentry box was approximately 2.5 meters square and two meters high.
- 99) Workers' Home: This house was approximately ten meters long, five meters wide, and two meters high, and had mud-walls and a cement tile roof. One or two families were living in this house. This house was formerly [redacted] used as a store of the smelter. 50X1-HUM
- 100) Office, Military Instructors: One of the two buildings was a one-story slag brick building, approximately five meters long, three meters wide, and two meters high, with a cement tile roof. The other one was a one-story wooden board structure, approximately ten meters long, five meters wide, and three meters high, with a cement tile roof. The former had been a grain distribution office [redacted] and the latter 50X1-HUM had formerly been the shop of the distribution office. These two offices were used by approximately ten NKPA officers, headed by a captain, assigned by an unknown unit to the smelter for the purpose of giving military training to the workers of the smelter.
- 101) Hadaedu-dong Office, Namp'o-si, P'yongan-namdo: This one-story structure was approximately 15 meters long, five meters wide, and three meters high, and had lime coated walls and a cement tile roof. The building was divided into an office room and a propaganda room. Almost all the families coming under the jurisdiction of the Hadaedu-dong Office were affiliated with the Namp'o Smelter. The areas of Hadaedu-dong, Sandaedu-dong, and Handu-dong were inhabited by the employees of the Namp'o Smelter and their family members.
- 102) 2nd Laborers' Billet, Administrative Accounting Department, Supply Deputy Manager: This two-story brick building, measuring approximately 50 meters long, 20 meters wide, and six meters high, had cement coated walls and a flat roof. Approximately 300 male workers, mostly NKPA veterans, were living at this billet. Some of the workers had their family members with them.

CONFIDENTIAL

NOFORN

CONFIDENTIAL

50X1-HUM

NOFORN

- 103) Mess Hall, above laborers' billet: This one-story mess hall for the above billet was approximately 20 meters long, ten meters wide, and three meters high, and had cement walls and a cement tile roof.
- 104) Boiler Room, 1st Laborers' Billet, Namp'o Smelter: This one-story slag-brick building was approximately six meters long, four meters wide, and three meters high, and had a cement tile roof. There was one boiler and one electro-motor at this place.
- 105) Washroom, 1st Laborers' Billet: This one-story building was approximately 20 meters long, eight meters wide, and three meters high, and had a cement tile roof. The washroom had two compartments, one for males and the other for females.
- 106) Restroom, Zinc Flower Brigade, Casting Workshop, Zinc Smelting Plant, Production Engineer: This one-story structure was approximately six meters long, 2.5 meters wide, and two meters high, and had red brick walls and a tile roof.
- 107) Workshop, Coastal Zinc Flower Brigade, Casting Workshop, Zinc Smelting Plant: This one-story wooden board building, approximately 15 meters long, five meters wide, and four meters high, had a cement tile roof. In this workshop, there was one zinc flower furnaces, one electro-motor, a fan, and some other unknown facilities.
- 108) Sentry Box, Industrial Guard Unit, Manager: This guard box also measured approximately 2.5 meters square and two meters in height. There was also a crank telephone at this box.
- 109) 1st Laborers' Billet, Administrative Accounting Department, Supply Deputy Manager: This structure was actually a combination of a two-story building and a one-story building. The two-story building was approximately 60 meters long, 14 meters wide, and seven meters high. The one-story building was approximately 50 meters long, 14 meters wide, and four meters high. The entire structure had concrete walls and a natural slate roof. Approximately 500 workers of the smelter were accommodated at this billet. Approximately 100 of them were female workers. The first floors had hot-floored rooms, which were occupied mostly by female workers. The second floor had steam heating facilities and beds.
- 110) Toilet, 1st Laborers' Billet: This structure was approximately six meters long, three meters wide, and two meters high, and had slag-brick walls and a cement tile roof. This toilet was mostly used by female workers accommodated at the billet.
- 111) Washroom, 1st Laborers' Billet: This wooden board structure was approximately eight meters long, three meters wide, and two meters high, and had a slate roof.

CONFIDENTIAL

NOFORN

-20-

CONFIDENTIAL  
NOFORN

50X1-HUM

- 112) Boiler Room for Cooking Purpose, 1st Laborers' Billet: This one-story wooden board structure was approximately five meters long, four meters wide, and four meters high, and had a slate roof. There was one boiler with an electro-motor, one fan with an electro-motor, and one water pump with an electro-motor at this boiler room.
- 113) Mess Hall, 1st Laborers' Billet: This one-story concrete structure was approximately 30 meters long, 20 meters wide, and three meters high, and had a slate roof.
- 114) Toilet, 1st Laborers' Billet: This was a one-story red-brick structure, approximately 15 meters long, three meters wide, and two meters high, with a cement tile roof. The toilet was compartmented into two sections, one for males and the other for females.
- 115) Residential Area, Namp'o Smelter: There were approximately 20 official residences of the Namp'o Smelter in this area. Most of these houses had been constructed prior to the Liberation, but some of them were slag-brick houses built after the Armistice. Each house built prior to the Liberation was approximately 15 meters long, six meters wide, and three meters high, and had cement walls and a tile roof. These houses were occupied mostly by exemplary workers, engineers, and clerical workers of the smelter and their family members. Approximately 50 families lived in this area.
- 116) Laborers' Restaurant, Life Direction Department: This T-shaped one-story building was constructed of slag bricks and had a cement tile roof. The cross bar of T was approximately 25 meters long, and the vertical bar of T was approximately six meters long. The width of the building was approximately six meters long. This restaurant was open from 1100 hours through 2400 hours. This restaurant was also used for holding wedding ceremonies and feasts.
- 117) Playground, National Namp'o Smelter: This level playground of the Namp'o Smelter was approximately 200 meters long and 100 meters wide. The workers of the smelter and the students in the city of Namp'o held soccer, basketball, and volleyball games at this playground. A wooden board rostrum, approximately ten meters long, five meters wide, and 1.2 meters high, with a wooden backdrop, was located at the central eastern edge of the playground.
- 118) Quarry, Combined Plant, Construction Engineer: The rocks and gravel mined at this quarry were used for constructing purpose at the Namp'o Smelter. There were an unknown number of rock crushers and some other quarrying machines at this place.
- 119) Pond: This was a natural pond, the water of which was slightly salty. This pond was not used for any purpose.

CONFIDENTIAL  
NOFORN  
-21-

CONFIDENTIAL

NOFORN

- 120) Residential Area, National Namp'o Smelter: There were approximately twenty slag brick houses with red tile roofs. These houses built after the Armistice were each approximately 15 meters long, six meters wide, and three meters high. Staff workers of the smelter, such as workshop chiefs and department chiefs, and their family members lived in these houses. Approximately 30 to 40 families lived in this area.
- 121) Residential Area, National Namp'o Smelter: There were approximately ten one-story houses built of slag-bricks after the Armistice in this area. These houses, each measuring approximately 15 meters long, six meters wide, and three meters high, had a red tile roof. Department chiefs and their family members occupied these houses. ( Comment: Each house occupied by a department or workshop chief was equipped with a dial telephone.) Approximately 20 families lived in this area. 50X1-HUM
- 122) Bathhouse, Life Direction Department, Supply Deputy Manager: This one-story building constructed prior to the Liberation, was approximately eight meters long, eight meters wide, and four meters high, and had red-brick walls and a cement tile roof. The bathhouse was compartmented into two sections, one for males and the other for females. This bathhouse was mainly utilized by the dependents of the workers of the smelter.
- 123) Residential Area, National Namp'o Smelter: There were approximately 20 low-level houses of motley shapes. These houses mostly had mud-walls and cement tile roofs. Manual workers and their family members lived in these houses. Approximately 40 to 50 families lived in this area.
- 124) Branch Store, Namp'o Smelter Workshop Store: This one-story slag-brick building was approximately eight meters long, four meters wide, and three meters high, and had a cement tile roof. Foodstuffs, beverages, and confectionary goods were sold at this store.
- 125) Barber Shop & Tailor Shop, Life Direction Department, Supply Deputy Manager: This one-story slag-brick building, approximately 25 meters long, nine meters wide, and three meters high, had a cement tile roof. The building was compartmented into two sections, one for the barber shop and the other for the tailor shop. The barber shop was again divided into two compartments, one for adults and the other for children.
- 126) Day Nursery, Life Direction Department, Supply Deputy Manager: This one-story slag-brick building was approximately 25 meters long, nine meters wide, and three meters high, and had a cement tile roof.
- 127) Kindergarten, Life Direction Department, Supply Deputy Manager: This one-story building was also made of slag-bricks and measured approximately 25 meters long, nine meters wide, and three meters high, and had a cement tile roof. ( Comment: This and the above two buildings were constructed after the Armistice.) 50X1-HUM

CONFIDENTIAL

-22-

NOFORN

CONFIDENTIAL  
NOFORN

- 128) Pump Operation Room, Service Water Workshop, Power Department, Production Engineer: This one-story small structure was approximately three meters long, two meters wide, and two meters high, and had a cement tile roof. There was presumably one water pump and an electro-motor at this pumping station. This building was built prior to the Liberation.
- 129) Pond: This pond roughly measuring approximately 150 meters long and 100 meters wide, was used for swimming contests, boat racings, and washing laundries by the workers of the smelter and their family members. The water of this pond was pumped up by the pump at the above pumping room. The depth of this pond was not known.
- 130) Night Recreation Station, Supply Deputy Manager: This one-story brick building was approximately 20 meters square and three meters high, and had a cement tile roof. This building was completed [redacted] 50X1-HUM  
Approximately 100 workers of the smelter requiring recreation and nourishment could be accommodated at one-time for a period of 20 days at this station. Such workers just moved in with their food tickets and ate better food and went to work at the smelter during the daytime.
- 131) Grocery Store, Namp'o Smelter Workshop Store: This one-story slag-brick building, approximately ten meters long, six meters wide, and three meters high, had a cement tile roof. The store sold condiments, vegetables, beverages, and confectionary goods.
- 132) Industrial Goods Store, Namp'o Smelter Workshop Store: This one-story slag-brick building was approximately ten meters long, six meters wide, and three meters high, and had a cement tile roof. Shoes, textile fabrics, and stationery goods were sold at this store. Part of the building was used as an office issuing grain-distribution tickets.
- 133) Grain Distribution Station, Namp'o Smelter: This was a one-story L-shaped building, approximately ten meters long, six meters wide, and three meters high, with slag brick walls and a cement tile roof. This station issued grain for all the manual and clerical workers of the Namp'o Smelter and their dependents. This building was completed [redacted] 50X1-HUM
- 134) Residential Area, Namp'o Smelter: There were approximately 100 one-story houses in this area. Most of these houses, built after the Armistice, were uniform. Each of them measured approximately 15 meters long, six meters wide, and three meters high. Approximately 100 families of manual and clerical workers of the smelter lived in these houses. The manager, deputy managers of the smelter, and the chairmen of the Party and social organizations of the smelter also lived in some of these houses.
- 135) Pond: This pond located near the Namp'o Smelter was approximately 50 meters long, and 30 meters wide. This pond had no relationship with the Namp'o Smelter.
- 136) Residential Area, Namp'o Smelter: Approximately 150 official residences of the National Namp'o Smelter were located in this area. These were uniform one-story structures, and each one was approximately 15 X 6 meters and three meters high, with a black-painted plate iron roof. Approximately 300 families of manual workers (mostly) were living in these houses. [redacted]

CONFIDENTIAL

NOFORN

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CONFIDENTIAL  
NOFORN

137) Residential Area, Namp'o Smelter: Approximately 100 one-story houses, each approximately 15 meters long, six meters wide, and three meters high with slag-brick walls and a tile roof, were located in this area. Approximately 200 families of manual workers of the smelter were living in these houses [redacted]

50X1-HUM

138) Night Professional School, Namp'o Smelter: This two-story building was approximately 80 meters long, 20 meters wide, and six meters high, and had lime-coated brick walls and a cement tile roof. This building was used by the Namp'o Marine Production School during the daytime. The three-year night school had four courses: machinery, copper smelting, zinc smelting, and electricity. Approximately 500 workers of the Namp'o Smelter attended this school. The graduates of this school became technicians. [redacted]

50X1-HUM

139) Apartment Building, Namp'o Smelter: These two two-story apartment buildings were constructed [redacted] Each building had lime-coated red-brick walls and a cement tile roof. Approximately 200 dependent families of the Namp'o Smelter lived in these apartments.

50X1-HUM

[redacted] Comment: The following installations were not integral parts of the Namp'o Smelter, but their names are included herein because they were located close to the installations of the Namp'o Smelter. [redacted]

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50X1-HUM

140) Namp'o Railroad Station.

141) Namp'o Railroad Station-Front Store.

142) Public Latrine, Namp'o Railroad Station.

143) Namp'o Port Workshop Store, Ministry of Transportation.

144) Namp'o Railroad Station-Front Restaurant.

145) Consignment Store, Namp'o Commercial Management Station.

146) Train Attendants' Restroom, Namp'o Railroad Station.

147) Handu-dong Office, Namp'o-si, P'yongyang-namdo.

148) Namp'o No. 7 Primary School.

149) Namp'o No. 4 Junior Middle School.

150) Apartment, Namp'o Ship Repairing Station, Ministry of Marine Industry.

151) Apartment, Namp'o Ship Repairing Station, Ministry of Marine Industry.

CONFIDENTIAL  
NOFORN  
-24-

CONFIDENTIAL  
NOFORN

- 152) Apartment, Namp'o Ship Repairing Station, Ministry of Marine Industry.
- 153) Mobile Sales Store, Namp'o-si Commercial Management Station.
- 154) Mobile Sales Store, Namp'o-si Commercial Management Station.
- 155) Railroad-Front Internal Affairs Sub-Station, Namp'o-si Internal Affairs Station, P'yongan-namdo Internal Affairs Department, Ministry of Internal Affairs.
- 156) National No. ? Hotel.
- 157) Namp'o-si Children's Park.
- 158) Children's Park.
- 159) Namp'o-si Automotive Station, Ministry of Transportation.
- 160) Namp'o Medical Professional School.
- 161) Brick Factory, Ministry of Construction Materials Industry.
- 162) Electrode Factory (name uncertain).
- 163) Namp'o Locomotive Yard.

### Organization

#### 3. Chart

Manager: CH'OE Ki-mo (1508/1015/2875)

- Planning Department (7 persons)
- Staff Department (4)
- Labor Department (10)
- Training Department (3)
- Bookkeeping Office (20)
- Confidential Documents Officers (4)
- Industrial Guard Unit (40)
- Technical Safety Department (3)

CONFIDENTIAL  
NOFORN  
-25-



CONFIDENTIAL

NOFORN

Production Chief Engineer:

- Experiment & Analysis Department (80)
- Production Instructors (4)
- Power Department: (300)
  - Production Power Workshop
  - Transformer Workshop
  - Service Water Workshop
  - Construction Power Workshop
  - Telephone Exchange
- Engineering Department: (300)
  - Lathe Workshop
  - Steel Casting Workshop
  - Casting Workshop
  - Boiler-Forge Workshop
  - Repair Workshop
  - Oxygen Workshop
- Copper Electrolysis Plant: (300)
  - Copper Electrolysis Workshop
  - Slime Workshop
  - Precious Metals Workshop
  - Repair Workshop
- Zinc Smelting Plant: (450)
  - Calcination Workshop
  - Liquefaction Workshop
  - Electrolysis Workshop
  - Casting Workshop
  - Repair Workshop
- Copper Smelting Plant: (500)
  - Sintering Workshop
  - Smelting Furnace Workshop
  - Converter Workshop
  - Repair Workshop
  - Ore Lump Workshop
- Facilities Management Department (10)
- Technical Department (5)
- Research Department (10)

CONFIDENTIAL

NOFORN

-26-

CONFIDENTIAL

NOFORN

Construction Chief Engineer:

- Civil Engineering Plant (250)
- Architectural Plant (250)
- Construction Pipe Making Plant (150)
- Construction Assembly Plant (150)
- Combined Plant (250)
- Draft Processing Plant (10)
- Draft & Estimate Department (30)

Business Deputy Manager:

- Transportation Department: (300)
  - Loading & Unloading Brigade
  - Train Controller's Office
  - Coastal Transportation Workshop
  - Automotive Repair Station
  - Transport Work Team
- Warehouse Department (60)
- Materials Department (15)
- Inspection Department (80)
- Sales Department (15)

Supply Deputy Manager:

- Administrative Accounting Department: (150)
  - Housing Management Section
  - Billet Management Section
- Life Direction Department: (100)
  - Grain Distribution Station
  - Workshop Store
  - Labor Restaurant
  - Barber Shop
  - Tailor Shop
- Night Recreation Station (15)
- Day Nursery (10)
- Kindergarten (9)

CONFIDENTIAL

-27-

NOFORN

CONFIDENTIAL

NOFORN

Functions

4. Manager: The manager had, directly under him, the Planning Department, the Staff Department, the Labor Department, the Training Department, the Book-keeping Office, the Technical Safety Department, the Industrial Guard Unit, and four confidential documents officers. One of the four confidential documents officers had his desk in the manager's office and worked as the manager's personal secretary. The manager supervised all matters arising in the production and construction fields of the smelter through the business deputy manager, supply deputy manager, production chief engineer, and construction chief engineer. He was responsible for exceeding the national production goals, and the smelter's own increased production goals through these men. The manager was also responsible for the finance of the smelter. The manager attended, received reports, and made conclusions at the meetings of the Industrial Technical Council of the smelter, monthly summarization meetings, quarterly summarization meetings, semi annual summarization meetings, and annual summarization meetings. The Production Technical Council was composed of workshop chief and higher level staff workers and some model workers. The manager also coordinated with the officials of the Ministry of Metals Industry and other organizations. At nine o'clock every morning, the manager received reports on previous day's activities from the chiefs of important posts of the smelter through his "command telephones". The manager used a chauffeur-driven dark green sedan. He worked six days a week, from Monday through Saturday. Sometimes he worked till very late into the night at the smelter. The manager's monthly salary was 7,800 Wpn. The manager's office was in building No. 87 of the installation sketch of the smelter given above. ( ) Comment: The number or numbers indicated in parentheses immediately after each department, plant, or workshop herein below indicate the pertinent facilities shown on the sketch of the smelter given above.)

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- 1) Planning Department (85): The personnel of this department consisted of the department chief, one deputy department chief, and four or five instructors. This department, subject directly to the supervision of the manager, established the overall production plans of the smelter and organized, directed, and controlled the execution of these plans. There were basic production plans: the national production plan and the smelter's own "increased production plan". The national production plan was first established by the National Planning Committee, and then it was approved by the Central Party of the Korean Labor Party before it was delivered to the National Lamp'o Smelter through the Ministry of Metals Industry. This department only added details to this national production plan. The increased production plan was established by this department. This plan was to produce more in addition to the production goal embodied in the national production plan. The increased production plan was executed in emulation with some other smelters, e.g., the Mung'yang Smelter. This department drafted the following year's production plan of the smelter in July or August of any given year by taking into consideration the production results of the smelter

CONFIDENTIAL

-28-

NOFORN

CONFIDENTIAL

NOFORN

during the preceding one half of the year. The production plan of the following year thus drawn up was forwarded to the Ministry of Metals Industry in October. It was then in December that the department received the formal national production plan of the smelter from the Ministry of Metals Industry. This department also established monthly and quarterly production plans and forwarded them to the various production installations under the manager. In drawing up such production plans, the department consulted with the Production Technical Council mentioned above. The department also wrote up monthly, quarterly, and annual production summarization reports and forwarded them to the Ministry of Metals Industry through the manager. The department inspected and directed each individual's daily and monthly production activities. The department received summary production reports monthly from each workshop of the smelter.

- 2) Staff Department (87): This department, directly subject to the manager, was manned by one chief and three instructors. This department handled such matters concerning the staff workers of the smelter as selection, assignment, wages, premiums, rewards and punishments, recommendation for further schooling, and building up of a reserve force. The workers of the smelter were brigade chiefs, foremen, workshop chiefs, department chiefs, clerical officers, and engineers. This department also selected and assigned the members of the Industrial Guard Unit.
- 3) Labor Department (87): The personnel of this department consisted of one department chief, one wage instructor, one norm engineer, two Demands and Supply instructors, one statistician, one increased production instructor, and one social security instructor. This department, which was subject directly to the manager, handled such matters concerning the general laborers of the smelter as employment, resignation, wages, work norms, social security, labor statistics, and rewards and punishments. This department had close working relationship with the general workers of the smelter, and it was one of the most important posts of the smelter.
- 4) Training Department (87): This department, also under the direct supervision of the manager, was manned by one department chief and two instructors. This department handled matters concerning the technical improvement of the laborers and determined the technical grades of individual laborers. The department operated two schools, i.e., the Night Professional School (138) and the Daytime Training School (48). The three-year Night Professional School was located near the Namp'o Railroad Station in Hamu-dong. Adult students (all employees of the smelter) recommended by the Training Department given above were studying at this school, some during the daytime and some at night. Those who studied during the daytime were night-shift workers of the smelter. There were four courses at this school: machinery, zinc smelting, copper smelting, and electricity. The graduates of this school automatically

CONFIDENTIAL

NOFORN

-29-

CONFIDENTIAL  
NOFORN

became technicians. It seemed that there were no female students at the school. Lessons were held for four hours a night from 1800 hours to 2000 hours. The students of this school were excused from the military training held at the smelter and other meetings of the smelter. There were an unknown number of regular instructors at the school. Prior to [redacted] when the new school building was constructed, students were taught at one of the installations of the smelter. [redacted] the school had graduated 40 - 50 students.

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The Daytime Training School was using the first floor of a two-story building, which had formerly been used as the analysis office. This two- or three-year school (middle school-level) gave elementary technical education to the children of the workers of the smelter. The students had to be recommended to the school by the Training Department. The school had approximately 100 students, who included some female students. Source did not know what treatment was accorded to the graduates of the school. [redacted]

50X1-HUM

- 5) Bookkeeping Office (84): Including the chief bookkeeper, there were approximately 17 or 18 persons employed at this office. The personnel were divided into two groups, one group handling the production affairs and the other the construction affairs of the smelter. The functions of this office were to maintain the financial balancing of the smelter and handle all monetary transactions involving cash, such as wages and rewards. The office had financial transactions with the Namp'o-si Branch, P'yongan-namdo, Korean Central Bank and the Namp'o-si Branch, P'yongan-namdo, Korean Construction Fund Bank. The employees of this office visited each workshop of the smelter twice a month and paid wages and premiums to the workers. The office conducted research as to how to lower the cost of materials and the cost of construction. This office had close relations with the Labor Department. The majority of the workers of the smelter worked on a contract basis, and the "contract workers" were not paid their full salaries of any given month if they did not fully achieve the month's production plan. For instance, if the workers achieved only the 80 percent of their monthly production plan, they were paid only the 80 percent of their salaries. The workers, however, usually achieved their monthly national production plan which was what mattered. The workers, however, often failed to achieve the smelter's own increased production plan.
- 6) Confidential Documents' Officers (87, 88, 89): Four confidential documents officers were working directly under the manager. These men, however, received more instructions from the chief of the Staff Department. One of the confidential documents officers had his desk in the office of the manager and he worked as a secretary for the manager. This man received and kept documents coming from the superior organizations to the manager, in addition to receiving guests for the manager.

CONFIDENTIAL  
NOFORN  
-30-

CONFIDENTIAL

NOFORN

[redacted] a girl secretary had performed this duty. 50X1-HUM  
 Another confidential documents officer kept the officials of the smelter and the personal chops of the manager, as well as forwarding and receiving documents. The third person kept various blueprints of the smelter. The fourth one was in charge of mimeographing activities.

- 7) Industrial Guard Unit (90): The Industrial Guard Unit had been at the Namp'o Smelter since during the Korean War. As of 2 July 1958, the Industrial Guard Unit of the Namp'o Smelter was composed of approximately 40 males. The same guard unit was mainly composed of females during the Korean War because of the shortage of male adults. Now there were three teams under the unit commander. Each unit was headed by a team chief. The unit members guarded the Namp'o Smelter 24 hours a day on a system of three shifts. The smelter was surrounded by a barbed wire fence on two sides facing the Taedong River. There were also some barbed wire fence, here and there, on the other two sides. One member of the guard unit with a Russian rifle was on guard duty at each of the six sentry boxes of the smelter. In winter, the guard unit members each wore a black winter cap and a black padded uniform. In summer, they wore Lenin caps and dark blue uniforms. Each one of them also wore an armband with a Han'gul letter inscription reading "San-Bo" (Industrial Guard). [redacted] 50X1-HUM

[redacted] the uniforms of the industrial guards were the same 50X1-HUM  
 all over North Korea. At least, they wore the same with those in the city of Namp'o. The main office of the guard unit was located right beside the main gate of the smelter. The duties of the guard unit were to safeguard the smelter and check the materials brought in and out of the smelter. Trucks hauling out materials or products were requested to show their required documents to the guard at the main gate. The workers of the smelter were all required to go through the main gate in coming to work and going home. When going home, the guard at the main gate affixed a chop reading "T'ce" (Quit) on the attendance card of each worker. For each day, the attendance card had two spaces. The pertinent officer of each workshop keeping attendance record affixed his chop on the upper space, and the guard at the gate affixed the above "Quit" chop on the lower space. A number of attendance card boxes were provided at the sentry box of the main gate, and the laborers dropped their attendance cards in their pertinent boxes. Each of the boxes was soon collected by the pertinent officer of each workshop. If a workshop had three shifts of workers a day, the attendance card box of that workshop had to be provided at the main gate three times a day. The staff workers of the smelter, however, only needed to affix their chops on or sign their names in the attendance ledger of their workshop provided at the main gate. The staff workers carried no attendance cards. The staff workers did not have to sign or affix their chops when going home.

[redacted] there were no security troubles at the Namp'o Smelter. [redacted] 50X1-HUM

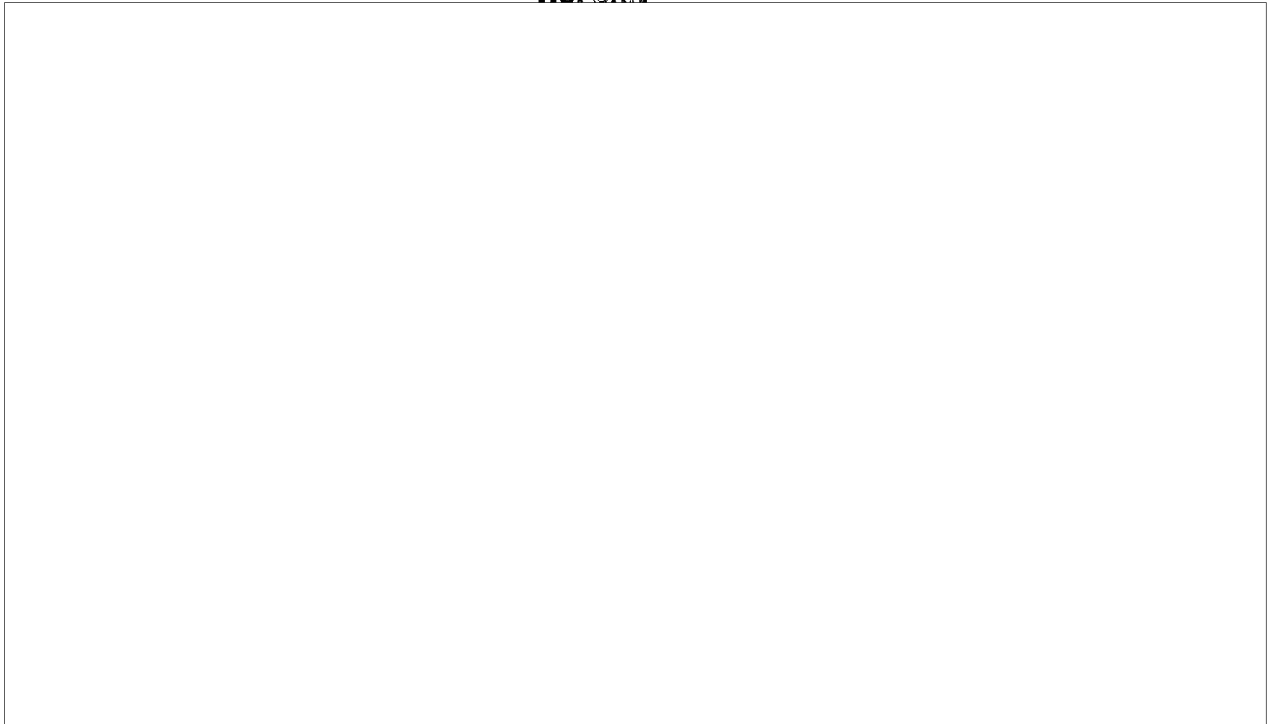
CONFIDENTIAL

NOFORN

-31-

CONFIDENTIAL  
NOFORN

50X1-HUM



- 8) Technical Safety Department (85): This department was manned by one chief and three safety instructors. The mission of this department was to prevent labor hazards. To be more specific, the department was to take preventive measures against any situation at a workshop that might be dangerous to the health of workers employed there. The department also reported to the manager on anybody who was responsible for any labor hazards at a workshop. The members of this department made an inspection tour of various workshops of the smelter only during the daytime. New employees of the smelter were principally to be given health and anti-hazard instructions at this department.
5. Production Chief Engineer (87): The man was responsible for giving technical direction on various phases of the production processes of the smelter, for expediting the production, and for acting for the manager in his absence. To be more specific, he replaced the old technical processes of the smelter with new and advanced processes, gave technical direction so as to convert the otherwise harmful labor work into safe labor work, and encouraged creative and inventive activities. There were the following nine posts under the Production Chief Engineer:
- 1) Experiment & Analysis Department (20): This department was staffed by a department chief, three clerical employees, and approximately 60 persons engaged in experimentation and analyzing work. The activities of this department included the analysis of zinc ore; analysis of copper ore; analysis of soot and smoke; analysis of slime resulting from the copper electrolysis; analysis of blister copper for gold, silver, copper, iron, and other elements; analysis of slag for precious metals; and

CONFIDENTIAL  
-32-  
NOFORN

CONFIDENTIAL  
NOFORN

the distillation of water.

50X1-HUM

this analysis department was once deceived by some crooked workers of the Sphing Mine (location unknown). Once when the analysis department sampled the ore sent by the Sphing Mine, it turned out to contain very high copper, gold, and silver elements. The analysis department, therefore, announced that the quality of the copper ore mined at the Sphing Mine was very good. Consequently, the mine won the circulatory banner of competition; but the Namp'o Smelter was not able to achieve its production goal because of the fraudulent action on the part of some workers of the Sphing Mine. The miners had actually given a coating of good ore to a box-car of low-grade ore it sent to the smelter. The truth was bare, and the culprits involved were punished.

- 2) Production Instructors (87): There were four production instructors. One of them was the chief of the group. All of them were engineers and on the level of workshop chiefs. In their office, these men had a telephone linked directly with the Mafic Metals Management Bureau of the Ministry of Metals Industry. Through this telephone, they received emergency instructions on production from the bureau and relayed the messages to the manager and production chief engineer. They also relayed the instructions they received from the manager or the production chief engineer to the various production posts of the smelter, and sometimes made reports to the bureau. These four production instructors worked individually on a three-shift-a-day system. The production instructors acted for the manager and the production chief engineer in case neither was available, and thus they managed the production process of the smelter. If a workshop needed several workers under an emergency situation, the production engineers could rush people from some other workshop of the smelter to this particular workshop.
- 3) Power Department (59): The employees of this department numbered approximately 300 persons. These men manned such component posts of the department as a) the Production Power Workshop (70 persons), b) the Transformer Workshop (70 persons), c) the Service Water Workshop (70 persons), d) the Construction Power Workshop (70 persons), and e) the telephone exchange of the smelter (6-7 persons).
  - a) Production Power Workshop (59): This workshop was responsible for installing, dismantling, and repairing all the wires and electro-motors which were required for the production power facilities of the smelter.
  - b) Transformer Workshop (9): This workshop distributed to the various workshops and offices of the smelter the electricity which came from the Sup'ung Power Plant through the Choch'ŏn Transformer Station located just south of P'yŏngyang, the Yusa-ri Transformer Station in Namp'o-si, and the ten transformers (8) of the smelter. The voltage

CONFIDENTIAL  
NOFORN

-33-



CONFIDENTIAL

NOFORN

of the electricity which the workshop received from the Yusa-ri Transformer Station was 3,300. According to the need of each workshop, the voltage of the electricity supplied, varied: 3,300 volt, 2,200 volt, 440 volt, 220 volt, 110 volt. The wires used at the Namp'o Smelter were either the Soviet or Czechoslovakian made.

- c) Service Water Workshop (45): This workshop supplied and managed the water used by the smelter for industrial, heating, and drinking purposes. For drinking purpose, the smelter used the water which was supplied to the city of Namp'o by the Samhwa Water Station located approximately 15 kilometers north of the smelter. The city of Namp'o was short of drinking water. The water for industrial and heating purposes was furnished to the smelter by the water pumps at two ponds (81 and 129) and by the Industrial Service Water Pump Operation Room (6). The water from one (81) of the ponds was first pumped up into the 3,000-ton underground tank located near the 600-foot chimney (31), and then was furnished as service water to the Copper Smelting Plant. The water from the other pond (129) and the Industrial Service Water Pump Operation Copper Electrolysis Plant, and the Central Boiler Room (45). The majority of the workers of the service water workshop were employed at the Central Boiler Room. The central boiler was used by the smelter for industrial purposes.
- d) Construction Power Workshop (48): The workers of this workshop were all electricians. They were organized into an unknown number of brigades. This workshop was responsible for installing all new electrical equipment at the smelter.
- e) Telephone Exchange (59): Six or seven girl telephone operators, working on a three-shift-a-day system, manned the switchboard for 24 hours a day. [redacted] the telephone exchange was either newly installed or rehabilitated after the Armistice. There were approximately 150 to 200 dial telephones at the smelter. The telephones were presumably Soviet made. The numbers of the intra-mural telephones all consisted of three digits. If a person desired to make an intra-mural phone call, he just needed to lift the receiver and dial the three digit-number of that particular telephone of the other party. In case a man desired to make a telephone call to an outside organization, he first dialed the telephone number of the switchboard which was also of three digits, and then he asked the telephone operator to hook him with the particular party he wanted.
- 4) Engineering Department (59): The employees of this department numbered approximately 300 persons. This department was responsible for repairing all the machinery of the smelter. This department consisted of the following six workshops:

50X1-HUM

CONFIDENTIAL

NOFORN

-34-

CONFIDENTIAL  
NOFORN

- a) Lathe Workshop (59): Approximately 60 lathemen were employed at this workshop. These men worked on a two-shift-a-day system, each shift working for eight hours a day. The lathemen, some of whom were apprentices, gave finishing touches to various machine parts which had been turned out by the Casting Plant and the Steel Casting Plant. This workshop produced various gears, axles, nuts, and bolts. The workshop was, however, still unable to produce bearings. Following the Armistice, approximately ten lathes (some made in [redacted] Occidental foreign nations), three shapers made in some Occidental nations, three drilling machines (made in [redacted] an Occidental nation), and two hoists made in an Occidental nation were installed at this workshop. 50X1-HUM  
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- b) Steel Casting Workshop (51): This workshop had approximately 50 employees. They worked only during the daytime. This workshop turned out steel castings of machine parts. Such steel castings, including babbits, were sent to the Lathe Workshop given above for finishing touches.
- c) Casting Workshop (55, 56, 57, 58): This workshop was also manned by approximately 50 persons. The workers presumably worked only during the daytime. The workers melted pig iron and scrap iron first. By pouring the molten iron thus obtained into wooden molds, the workers turned out machine parts and trolley wheels. Such castings were sent to the Lathe Workshop and were given finishing touches. The workshop sometimes produced iron cooking pots, which were sold at a cheap price or given as rewards to the workers.
- d) Boiler-Forge Workshop (60): Approximately 50 persons were employed at this workshop. The workers worked only during the daytime. By forging and welding, this workshop produced large iron pipes and other utensils made of iron plates, which were all needed at the smelter. All heat treatment work was conducted at this workshop. As facilities, the workshop had an unknown number of oxygen welding machines [redacted] an unknown number of electric welding machines which [redacted] one melting furnace, three [redacted] air hammers, and some cutters. 50X1-HUM
- e) Repair Workshop (59): Approximately 50 persons were employed at this workshop. They principally worked during the daytime. One or two men, however, were on duty at night. This workshop conducted all the major repairings of the production machines of the smelter. The workers of this workshop usually repaired various machines at various workshops where the machines were actually located. Minor repairing of machines was conducted by the repairmen attached to each workshop. The workers of this workshop were all technicians who were capable of overhauling, assembling and installing any machines which were required for the smelting of copper and zinc

CONFIDENTIAL  
NOFORN

CONFIDENTIAL  
NOFORN

ores. The workers of this workshop were divided into two groups; one assigned to the machinery of zinc smelting and the other for the copper smelting machinery.

- f) Oxygen Workshop (49): This workshop employed approximately 15 persons and produced oxygen which was needed for industrial purpose by the smelter. It was rumored that beginning in 1957, this workshop would produce cider for the consumption by the workers of the smelter.

50X1-HUM

- 5) Copper Electrolysis Plant (26, 27, 47): The employees of this plant numbered approximately 300 persons. This plant consisted of the Copper Electrolysis Workshop (27), the Slime Workshop (26), and the Precious Metals Workshop (47).

- a) Copper Electrolysis Workshop: The employees of this workshop, who numbered some 150 persons, worked on a three-shift-a-day system. By using approximately 150 electrolysis refining tanks (cells) installed in one half of the second floor of the building, this workshop produced copper plates, each measuring approximately 100 centimeters long, 80 centimeters wide, and one centimeter thick. In producing copper plates, blister copper plates produced by the Copper Smelting Plant was dipped in the electrolytic cells filled with diluted sulfuric acid (70 percent). The blister copper was then separated into copper and slime. The copper thus separated was attracted to and stuck on both sides of each original plate of the cell measuring approximately 100 centimeters long, 80 centimeters wide, and two or three millimeters thick. This workshop began operations [redacted] the workshop, however, was not able to execute the production plan of May and June of the same year due to the inadequacy of electrolytic cells. The workshop was able to achieve only 50 percent of the national production plan of May, and 80 percent of the same plan in June.

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[redacted] Comment: Because of this workshop, the Namp'o Smelter had to return [redacted] the championship banner which the smelter had won from the Mump'yung Smelter [redacted] The two smelters were engaged in a production contest.)

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- b) Slime Workshop (26): The employees of this workshop, numbering approximately 70 persons, worked on a system of three-shift-a-day. Source was under the impression that this workshop extracted gold from the slime which it received through pipes from the Copper Electrolysis Workshop. The slime bereft of gold was sent to the Precious Metals Workshop for further processing.

50X1-HUM

CONFIDENTIAL  
NOFORN

CONFIDENTIAL  
NOFORN

50X1-HUM

[ ] the Namp'o Smelter was to produce one ton of gold [ ]  
But the production achievement of the smelter was not very good.  
[ ] as had been stated above. No outsiders were  
allowed to enter both the slime workshop and the Precious Metals  
Workshop.

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- 6) Zinc Smelting Plant (3, 4, 5, 6, 10, 11, 12, 14, 15, 17, 18): This plant employed approximately 450 persons. Zinc ores from various mines of North Korea were brought to this smelter and were processed and turned into zinc plates and zinc flower. [ ]

50X1-HUM

[ ] Each subordinate workshop of this plant and the Copper Electrolysis Plant had four foremen, because the workshops and the plant operated 24 hours a day on a three-shift system. Each shift had a foreman. One of the four was the chief foreman. This plant consisted of the following workshops:

- a) Calcination Workshop (18): The employees of this workshop, who numbered approximately 100 persons, worked 24 hours a day on a three-shift system. [ ]

50X1-HUM

[ ] This workshop was the first stage of the zinc smelting. Zinc ores brought from various mines of North Korea were first calcined by two calcination furnaces at this workshop. In the course of calcination, impurities, including sulphur, were burned up, and powder zinc and some other minerals remained at the bottoms of the furnaces. The zinc concentrates were then sent to the Liquefaction Workshop for further processing. [ ]

50X1-HUM

[ ] the furnaces used hot blast from some blowers. One shed accommodating one switchboard and three or four transformers were attached to the workshop building. It was said that the calcination furnaces were new ones. ( [ ]

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Comment: [ ] seven or eight Soviet engineers came to the Namp'o Smelter and installed machinery in the various workshops of the Zinc Smelting Plant, and left the smelter for home [ ] after witnessing the commencement of the operations of the same plant.)

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50X1-HUM

- b) Liquefaction Workshop (14): Approximately 100 persons were employed at this workshop. These employees worked for 24 hours a day on a three-shift system. The powder zinc ore sent from the Calcination Workshop was put in liquefaction tanks filled with dilute sulfuric acid, and was let alone to precipitate. Impurities floated and the precipitate was sent to the Electrolysis Workshop. There were approximately 30 liquefaction tanks of various sizes. The large ones each measured approximately three meters in diameter and four meters in height. The tanks rose from the first floor through the second floor. Each tank was equipped with an electro-motor of five or six horsepower. The main work site of the shop was the second floor of the building.

CONFIDENTIAL  
NOFORN

CONFIDENTIAL  
NOFORN

c) Electrolysis Workshop (12): Approximately 100 persons worked at this workshop for 23 hours a day on a three-shift system. There were approximately 160 rectangular concrete tanks, each measuring approximately 2.5 meters long, 1.5 meters wide, and 1.3 meters high. The walls of the tanks were stuffed with pitch. The inside walls all had a lead coating. The precipitate from the Liquefaction Workshop was put in the tanks filled with diluted sulfuric acid. Next electricity was given to the tank from both sides of the walls of the tank. Then the electrolyzed zinc stuck on the cell plates of the tank. The zinc coatings thus formed on both sides of each cell plate were peeled off and sent to the Casting Workshop. There were approximately ten such cell plates in each tank. Approximately 160 electrolytic cells were to be installed in this workshop in the future.

d) Casting Workshop (3, 5, 107): Approximately 100 persons were employed at this workshop, and they worked 24 hours on a three-shift system. [REDACTED]

50X1-HUM

[REDACTED] There were two casting furnaces at this workshop. The zinc plates sent by the Electrolysis Workshop were cast by these two furnaces into zinc blocks, each measuring approximately 40 centimeters long, 20 centimeters wide, and five centimeters high. [REDACTED]

50X1-HUM

50X1-HUM

[REDACTED] Part of the zinc ingots thus produced were exported to an unidentified foreign country, and part of them were processed into zinc flower by the Electrolytic Zinc Flower Brigade, which had its shop within the Casting Workshop. [REDACTED] the zinc flower was used for making paint with. ( [REDACTED] Comment: Some laborers applied the zinc flower to their white canvas shoes to give them more whiteness and luster.) The Electrolytic Zinc Flower Brigade had only one electrolytic zinc flower furnace. In addition to this brigade, there was a "Coastal Zinc Flower Brigade"(107). Approximately 20 or 30 workers were employed at this brigade. The name of this brigade was probably derived from the fact that it was located near the coast. This brigade had only one zinc flower furnace, which used coke and coal. This furnace was constructed prior to the Liberation.

50X1-HUM

c) Repair Workshop (9): This workshop used one part of the Transformer Workshop building of the Power Department. There were approximately 50 persons employed at this workshop. This workshop performed all the minor repairs of machines used by the four subordinate workshops of the Zinc Smelting Plant. This workshop was in operation only during the daytime, and there were only one or two men on duty at night. [REDACTED]

50X1-HUM

[REDACTED] Comment: The brigades were flexible in number and strength, because the organization of brigades had to be tied in with the progress of production and construction.)

CONFIDENTIAL  
NOFORN

CONFIDENTIAL  
NOFORN

- 7) Copper Smelting Plant (29 - 41, 61, 62): Approximately 500 workers were employed at this plant. This plant mixed, sintered, and smelted the copper ore (containing gold and silver also), and produced blister copper by means of converters. This plant, the Zinc Smelting Plant, and the Copper Electrolysis Plant, were the three major production installations of the Namp'o Smelter. Of these three plants, this Copper Smelting Plant was the largest in scale. This plant had the following five subordinate workshops:
- a) Sintering Workshop (29, 30, 41): The employees of this workshop, numbering approximately 150 persons, were organized into four shifts. Since the work at this workshop was harmful to the health of the workers, three shifts worked a day for 24 hours, while the fourth shift rested one day. The copper brought in by the Transportation Department was crushed and mixed with silicon and slime at the mixing shop (41). The mixture was made into small pebbles by means of one "grain making machine" invented by the Engineering Department of the smelter. The pebbles were 50X1-HUM put in the sintering furnaces (approximately five altogether) and were sintered by using anthracite, diesel, and gasoline. The sinter remaining at the bottom of each sintering furnace was dumped into the hopper underneath when the furnace was tilted. The sinter was then transported by means of electric cars to the Sinter Storage (40). Yellow and noxious gas arose when the ore was sintered. Since the noxious gas pestered the tender parts of the human body, the workers of this workshop each wore a mask and a loincloth and applied face powder to the exposed parts of their bodies, such as faces and hands. Some workers of this workshop rapidly became ill, but some had reportedly been working there ten to 20 years without any apparent harm done to their health. Nobody particularly liked to work at this workshop, but they had no alternative because they had been assigned there. The workers at this workshop, however, received comparatively better salaries. The workers of this workshop were striving to improve the coagulation rate of the sinter. The ore, if became powder, was apt to be lost with the smoke and soot.
- b) Furnace Workshop (39, 40): The employees of this workshop, numbering approximately 150 persons, were organized into four shifts. Three shifts worked a day for 24 hours, while one shift rested. There were two old blast furnaces built prior to the Liberation at this workshop. The sinter was brought by means of trolley car from the Sinter Storage, and then was put in the furnaces to be melted. In melting the sinter, anthracite and coke were used as fuel. This part of the process at this workshop was known as the in-putting work. There were approximately 40 or 50 in-putting workers at this workshop. Once the sinter was put in the furnace, the melting work was taken over by peephole workers known as "Ugu-gong" in Korean. The peephole workers adjusted the melting 50X1-HUM

CONFIDENTIAL  
NOFORN  
-39-

CONFIDENTIAL

NOFORN

of sinter by watching through a hole in the furnace. The peephole workers had to be careful lest the molten sinter should stick together and become molten masses. The peephole workers were the most valued technicians at this workshop.

The molten ore flowed into crucibles. Two or three men worked at the crucibles. The molten ore was emptied into a large pan from the crucibles. A crane carried the large pan containing the molten ore and emptied it into the converter. The molten ore was converted into blister copper by the converters. The froth on the surface of the molten ore had, in the past, been just thrown away as slag. But [redacted] an auxiliary crucible using an electric heater was attached to the main crucible in order to extract some precious metals from the froth. The froth from the main crucible flowed into this auxiliary crucible. Part of the froth which flowed out from this auxiliary crucible became slag powder and part of it was used for making slag bricks. One slag brick measured approximately 30 centimeters long, 15 centimeters wide and high, and weighed approximately 15 kilograms. Slag bricks were made by letting the hot slag from the auxiliary crucible flow into iron molds of bricks. The slag powder was hauled out by train and electric cars to open lots and emptied. The surrounding areas of the smelter were virtually covered with black slag. ( [redacted] Comment: The topographical features of the entire city of Namp'o would change because of the slag in the future.) There were approximately 20 to 30 hoppers installed in a row at the bottom along the length of the underground tunnel extending from the two blast furnaces. The soot containing the elements of gold, silver, and copper fell into the hoppers. The powdery soot was sent to the Ore Lump Workshop by means of a conveyor. The soot was mixed with pitch and was made into lumps. The soot lumps thus made were again put into the molting furnaces. The soot work was conducted for 24 hours a day on a three-shift system. Approximately ten persons worked on each shift.

50X1-HUM

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- c) Converter Workshop (39): The employees of this workshop, numbering approximately 80 persons, were organized into four brigades. Three brigades worked 24 hours a day on a three-shift system, while one brigade rested the same day. As facilities, this workshop had two old converters built prior to the Liberation, 15 molds for blister copper, two cranes, and one drill. The converters used direct current. The molten ore from the Blast Furnace Workshop was converted by the converters into blister copper. The overall production goal of blister copper was 480 tons [redacted]

50X1-HUM

[redacted] Of this, the workshop had, however, achieved only the national production goal, not the smelter's own increased production goal. The blister copper produced at this workshop was transported by electric cars to the Copper Electrolysis Plant. This was also a hazard workshop. Accordingly, the workers of this workshop were entitled to eat at the special diet restaurants.

CONFIDENTIAL

-40-

NOFORN

CONFIDENTIAL  
NOFORN

- d) Repair Workshop (40): The employees of this workshop were composed into approximately ten brigades. This workshop was responsible for conducting minor repairs on the machinery used by the Copper Smelting Plant. The workshop managed blowers, exhaust fans, and reservoir pumps. The repairmen of the workshop worked only during the daytime; while the operators of blowers, exhaust fans, and pumps worked 24 hours a day on a three-shift system. The facilities of this workshop [redacted] 50X1-HUM  
[redacted] were installed at this smelter prior to the liberation. 50X1-HUM  
The facilities of the workshop included: two [redacted] blowers 50X1-HUM  
with a 600 HP electro-motor (3,300 voltage); one [redacted] blower  
with a 500 HP electro-motor (3,300 voltage); one [redacted] blower  
with a 350 HP electro-motor (2,200 voltage); one [redacted] blower  
with a 300 HP electro-motor (2,200 voltage); one air-compressor  
with a 50 HP electro-motor (440 voltage); approximately 15 air-  
compressors, each with a one or five HP electro-motor (440 - 220  
voltage); one 30 HP generator (440 voltage) made in an unknown  
Occidental nation; and approximately 50 batteries. There were  
approximately seven exhaust fans, each with an electro-motor, and  
an air-compressor at the Exhaust Fan Room. There were three water  
pumps, each equipped with a 100 HP electro-motor (2,200 voltage),  
at the pump operation room. The two bucket conveyors for scooping  
up slag and dumping it into two slag dumps were each equipped with  
a 50 HP electro-motor. As repair facilities, the workshop had  
one electric welding machine, one oxygen welding machine, one  
drilling machine, one forge furnace, and some general tools.  
This workshop supplied hot blast to the two blast furnaces and  
two converters of the Copper Smelting Plant, and got rid of the  
sulfuric gas arising in the course of sintering process.
- e) Ore Lump Workshop (34): This workshop consisted of the Ore Lump  
Shop, employing approximately 40 persons, and the Slag Brick Shop,  
employing approximately 60 persons. Each of the two shops had  
three brigades, and was operated for 24 hours a day. The Ore  
Lump Shop was equipped with one ore lump furnace, one vertical  
belt conveyor, one horizontal belt conveyor, and three transformers.  
The soot, containing gold, silver, and copper, which was retrieved  
by means of hoppers at the underground tunnel leading out from  
the melting furnaces, was mixed with pitch at this workshop and  
was made into ore lumps looking like briquettes. Such ore lumps  
were again put into the melting furnaces. [redacted] 50X1-HUM  
when this workshop was put into operation, the soot processing  
method was rather complicated. Then, the soot had had to go  
through the mixing process at the Mixing Workshop, before being  
sintered by the sintering furnaces. The sinter, thus made, was  
stored at the Sinter Storage. The facilities of the Ore Lump  
the staff workers of the smelter. The Slag Brick Shop was  
actually located outdoors. It extended from buildings 29 to 34.

CONFIDENTIAL  
NOFORN  
-41-



CONFIDENTIAL  
NOFORN

50X1-HUM

As facilities, this shop had one electric car [redacted], one winch, approximately 1,500 iron brick molds produced by the Engineering Department of the smelter, and some other general tools including hammers, and tongs. The slag from the melting furnaces was poured into the molds and made into slag bricks. Each slag brick was approximately 30 centimeters long, 15 centimeters wide, and 15 centimeters high. This shop produced approximately 10,000 slag bricks a day. Because of the fact that the slag just out of the furnaces is very hot, the slag brick workers were able to work outdoors without feeling cold during the winter season, but they felt too hot during the summer. Instead of having stoves in winter, the various workshops of the smelter used the hot slag for heating their shops with.

8) Facilities Management Department (84): This department was manned by one chief, four clerical workers, and five manual laborers. This department took custody of all machinery used at the smelter, and saw to it that all machines were used as long and as best as possible. The "facilities management worker" of each workshop received instructions on the custody of facilities from this department. This department found out the reason why any machine was broken down; and held the pertinent person accountable for it.

9) Technical Department (84): This department was staffed by one chief and four clerical workers. This department gave technical direction to various workshop of the smelter, mainly the production workshops. The workshop, in effect, encouraged inventive works, shortened production process, and improved the facilities.

50X1-HUM

10) Research Department (20): This department was staffed by one chief and approximately nine members. This department was created [redacted] for the first time. [redacted]

6. Construction Chief Engineer (84): This man, known otherwise as the construction deputy manager, was in charge of all the construction activities of the smelter, including rehabilitation, construction, installation, and enlargement. Approximately 1,100 persons, who worked under the construction chief, plant chiefs, workshop chiefs, brigade chiefs, instructors, clerical workers, and general workers. Under the construction chief engineer, there were the following plants and departments:

1) Civil Engineering Plant (48): This plant had approximately 250 employees. This plant was supposedly responsible for the foundation works (concrete works) of all construction projects of the smelter. It is not known how the plant was administratively organized or what facilities the plant had. The employees of this plant worked mostly during the daytime only; but sometimes they also worked at night.

2) Architectural Plant (48): This plant employed approximately 250 persons.

CONFIDENTIAL  
NOFORN

-42-

**CONFIDENTIAL**  
**NOFORN**

The workers of this plant worked only during the daytime. As equipment, the plant had one concrete mixer, some electro-motors, one foreign-made crane with a diesel engine, etc. This plant was responsible for constructing overground architectural facilities for the smelter.

- 3) Construction Pipe Making Plant (11): The personnel of this plant numbered approximately 150 persons. This plant performed all the welding work (both electrical and oxygen) that was required in various construction projects of the plant. The work of this plant had to be performed in parallel with the activities of the above Civil Engineering Plant and the Architectural Plant. As equipment, the plant had one furnace, drilling machines, cutters, hammers, chisels, etc. The work done by this plant was very essential and much required of in the construction activities of the smelter. [redacted] a foreman of this plant, received the highest salary among all the workers of the smelter, i.e., 10,000 W/ón. This was more than the highest-paid worker of such hazard workshops as the sintering workshop and the basic salary of the manager of the smelter. The highest-paid sintering worker and the manager received 8,000 W/ón a month. This difference in salaries was indicative of the heaviness of the work performed by the workers of this plant.
- 4) Construction Assembly Plant (2): The personnel of this plant numbered some 150 persons. The workers of this plant worked only during the daytime. This plant was responsible for installing machinery in a building once it had been constructed. The work of this plant, therefore, had to be performed in concert with the work of the above Construction Pipe Making Plant. This plant had approximately two lathes, one furnace, and some other unidentified tools.
- 5) Combined Plant (22, 23, 24, 25, 118): The employees of this plant, numbering approximately 250 persons, worked only during the daytime. As facilities, this plant had one belt saw, one electro-motor, two round saws each equipped with an electro-motor, one foreign-made planer with an electro-motor, one rock-crusher with an electro-motor. This plant, handling all lumber and wood work, assisted the construction activities of the Architectural Plant and the Civil Engineering Plant. This plant also produced gravels, and cement blocks.
- 6) Draft Processing Department (84): This department was staffed by a chief and approximately nine members. This department established monthly, quarterly, and annual construction plans of the smelter. To be specific, this department established the construction plans and supply plans and forwarded them to the Civil Engineering Plant, Architectural Plant, Construction Pipe Making Plant, Construction Assembly Plant, and the Combined Plant; and summarized the construction activities of these plants.

50X1-HIUM  
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**CONFIDENTIAL**  
**NOFORN**  
-15-

CONFIDENTIAL  
NOFORN

- 7) Draft & Estimate Department (84): This department was staffed by a chief and approximately 30 draftsmen. The mission of this department was to draft all the construction plans (blueprints) of the smelter.
7. Business Deputy Manager (87): The business deputy manager was in charge of all the business affairs of the smelter. He had the Transportation Department bring in all the machinery, raw materials, fuel, and other supplies which were needed by the smelter; and had them furnished to the various workshops of the smelter through the Warehouse Department and the Materials Department. The half-finished products and the completely finished products of the smelter were also disposed of through two departments under this business deputy manager, i.e., the Sales Department and the Transportation Department. There were the following departments under the business deputy manager:
- 1) Transportation Department (1, 42, 43, 67, 68, 69, 70, 70-1): This department, headed by one chief and a deputy chief, had approximately 300 employees. This department was in charge of all the transportation activities of the smelter. The activities of this smelter were divided into the following sections:
    - a) Loading & Unloading Brigade (15, 67, 69): This brigade worked 24 hours a day on a three-shift system. The brigade members unloaded incoming copper and zinc ores, fuel (coal, gasoline, and diesel), machinery, and other supplies from trains. The brigade then loaded outgoing copper blocks, zinc, slag bricks, and others on freight-cars. The loading and unloading works were not considered harmful works to health, but they were regarded as heavy works.
    - b) Train Controller's Office (68, 70, 70-1): The personnel of this office, numbering several persons, worked 24 hours a day on a three-shift system. This office had under its control three locomotives, five freight-cars, and one freight-car scale. The operation of trains from the Namp'o Railroad Station into and out of this smelter was conducted by the personnel of this office.
    - c) Coastal Transportation Workshop: The employees of this workshop, numbering approximately 70 persons, unloaded red bricks and sand from ships. In so doing, they used one foreign made liftfork, and two cranes. The personnel of this workshop worked only during the daytime.
    - d) Automotive Repair Station (91): The personnel of this station, including drivers and mechanics, numbered approximately 40 persons. This station operated and maintained approximately 20 trucks, five liftforks, and two power shovels.

CONFIDENTIAL  
NOFORN

-44-

CONFIDENTIAL

NOFORN

- e) Transport Work Team (16, 42, 43): This team worked 24 hours a day on a three-shift system. As means of transportation, this team had three belt conveyors [redacted] three [redacted] electric cars, one foreign-made crane, and one foreign-made power shovel. This team transported copper and zinc ores at the smelter, and dumped away slags.
- 2) Warehouse Department (71, 72, 93-1): This department had approximately 60 persons, and they worked only during the daytime. This department had two warehouses and two outdoor storages (71, 72). This department took custody of all the machinery, labor protection materials, oils, chemicals, and other supplies used by the smelter.
- 3) Materials Department (84): The personnel of this department, numbering approximately 15 persons, worked only during the daytime. This department furnished all the machinery required by the smelter for construction and production purposes, and labor protection materials for the workers of the smelter.
- 4) Inspection Department (44): This department had approximately 80 persons. These men worked at various workshops, 24 hours a day on a three-shift system. They inspected all the semi and completely finished products of the smelter, and the construction and production processes of the smelter. This department also conducted production inspection by products, and by shift, day, month, and quarter. The crushing workers of this department crushed zinc and copper ores in order to find out how much zinc, copper, gold, silver, and other elements the ores contained. Such crushed ore was, together with sampled slag, packed and sent for analysis to the Experiment & Analysis Department under the production engineer. As facilities, this department had one air compressor, one drying room, approximately ten crushers each with an electro-motor, and some tools for inspection purpose.
- 5) Sales Department (84): Approximately 15 persons manned this department. This department sold or disposed of all the products of the Namp'o Smelter, such as copper plates, zinc blocks, zinc flower, slag bricks, pavement bricks, gold, silver, and others.
8. Supply Deputy Manager (87): Approximately 250 persons worked under the supply deputy manager. Through the two departments under his control, i.e., Life Direction Department and the Administrative Accounting Department, the supply deputy manager managed stores, restaurants, one barber shop, one day nursery, one kindergarten, and the housing of workers, which facilities were all needed for the workers of the smelter.
- 1) Administrative Accounting Department (87, 102, 109): This department, headed by one chief, one deputy chief, and one restaurant section chief, had approximately 150 employees altogether.

CONFIDENTIAL

NOFORN

-45-

CONFIDENTIAL  
NOFORN

- a) This department furnished all the office supplies used by the workers of the smelter; calculated the wages for the workers and sent them to the Bookkeeping Office through the Labor Department; and issued official travel certificates. To be effective, the travel certificates had to be affixed with the official chop of the smelter kept by one of the confidential documents workers.
- b) Housing Management Section (52, 77, 87, 115, 120, 121, 123, 134, 136, 137): This section was headed by one deputy department chief, and had approximately 80 workers whose duties were to repair the houses. The 12th Construction Trust of the Ministry of Construction built apartment buildings and individual houses and assigned them to various factories in Namp'o-si. This section reassigned these houses to the workers of the smelter, and repaired and maintained the houses. As of June 1958, however, the smelter was short of houses. Approximately 700 more houses were needed. Two or three families were living crowded in a house originally designed only for one family. Because of the housing shortage, some husbands and wives were living separately in apartment houses.
- c) Billet Management Section (102, 103, 104, 105, 109, 110, 111, 112, 113): This section, controlled directly by the department chief, had approximately 50 employees. This section managed two billets (102, 107). Approximately 800 persons, both males and females, were accommodated in these two billets. These people included approximately 400 persons [redacted] Females were mostly 50X1-HUM accommodated in hot-floor rooms on the first floors, while the males were assigned to rooms on the second floors which were equipped with beds. The sizes of the rooms varied, and two to 14 persons were accommodated in one room. [redacted] these two billets were getting more crowded, because the number of the employees of the 50X1-HUM Copper Electrolysis Plant was increasing at that time. The workers each paid a total of 600 - 700 Wpn for the food tickets which they bought twice a month, around the 20th and 5th of each month.
- 2) Life Direction Department (87, 116, 125, 131, 132, 133): This department, headed by a chief and a deputy chief, had approximately 100 employees. This department managed such facilities as the grain distribution station, workshop stores, a laborers' restaurant, a barber shop, and a tailor shop. This department also operated one wooden boat and a motor boat with which they fished. The fish was supplied at a cheap price to the workers living in billets.
- a) Grain Distribution Station (132, 133): This station was administratively subject to the Commerce Department of the Namp'o-si People's Committee. Besides giving food distribution, the station issued grain tickets, daily commodity cards, and fuel cards. Approximately ten persons were employed at the station.

CONFIDENTIAL  
NOFORN

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NOFORN

- b) Workshop Stores (124, 131, 132): Approximately ten persons were employed at the three workshop stores. Two (124, 132) of them were actually branch stores of the main store under the jurisdiction of the Namp'o-si Commerce Management Station. The stores sold grocery items, clothing, stationery goods, shoes, etc. Since they were scarce, the Life Direction Department assigned so much quotas for purchasing socks, T-shirts, and underwears.
  - c) Laborers' Restaurant (116): This restaurant served general food and beverages to the workers of the smelter. The restaurant could serve approximately 40 persons at one time. The restaurant was open from 1200 hours to 2300 hours.
  - d) Barber Shop (125): This barber shop, manned by eight barbers, was divided into two sections, one for grown-up men and the other for children. The haircut charge was 15 Won for adults, and ten Won for children. The barber shop was open from 0800 hours to 2000 hours. The barber shop was always crowded. However, they were closed on Mondays.
  - e) Tailor Shop (125): This shop, which shared the same building with the barber shop given above, was manned by approximately five persons. There were two sewing machines at this shop. The tailor charges at this shop were cheaper, by ten to 20 percent, what were charged by other tailor shops in the city of Namp'o. But it usually took seven to ten days to have something made or mended at this shop. Sometimes this shop produced work clothes for the workers of the smelter.
- 3) Night Recreation Station (130): This one-story house was built in April 1950. The station was under the control of the Supply Deputy Manager. The station was staffed by one chief and approximately 15 employees who were known as the "culture directors." The workers of the smelter engaged in health hazard works, such as furnace workers and others, were sent by their workshops to this recreation station for 20 days a year. Such workers just brought their food tickets with them. While staying at this station, the workers were fed with nutritious food, such as pork, fritters, etc. The workers merely stayed at this station at night, but they continued working at their workshops during the day. Approximately 80 persons could be accommodated at the station. It was said that after spending 20 days at this station, the workers each gained approximately two kilograms in weight. The workers reportedly learned how to dance at this station.
- 4) Day Nursery (126): Approximately ten women were employed at this day nursery. Women employed at the smelter left their babies at this nursery and went there from their workshops during the daytime about three times to nurse their babies. It is not known how many babies could be accommodated at the day nursery.

CONFIDENTIAL  
-47-  
NOFORN

CONFIDENTIAL  
NOFORN

- 5) Kindergarten (127): Approximately nine women were employed at the kindergarten. This kindergarten could accommodate approximately 100 pre-school-age children of the employees of the smelter.

### Production Process:

#### 9. Copper Smelting

- 1) The ores containing gold, silver, and copper, which were mined at various mines of North Korea were first brought by freight-cars to the Nampo Railroad Station (140 on the sketch). The freight cars were then pulled into the smelter by a locomotive operated by the Transportation Department of the smelter. The ore was unloaded at the unloading site (66, 69) and was subjected to preliminary selection.
- 2) The selected ore was then sent by belt conveyors (42, 43) to the mixing shop of the Copper Smelting Plant. The ore was mixed with silicon and lime. The mixture was made into pebbles by means of "grain making machine." The ore pebbles thus made were taken to the Sintering Workshop (29) by a belt conveyor.
- 3) The ore pebbles were burnt by means of diesel at the Sintering Workshop, and were made into sinter. The sinter was dropped into hoppers installed below the sintering furnaces.
- 4) The sinter was taken by electric cars to the Lump Sinter Storage (40).
- 5) The in-put workers of the Copper Smelting Plant then took the sinter from the storage by means of push-carts to the smelting furnaces (39). Anthracite and coke were used to burn the sinter with.
- 6) In order to smelt the sinter, hot blast was sent to the smelting furnaces by the blower (62). Teephole workers adjusted the heat of the smelting furnaces.
- 7) The molten ore flowed into a crucible (39). The precious metals precipitated and the liquid slag floated. The liquid slag flowed into an auxiliary crucible (39) which was kept hot by an electric furnace. The precious metals still contained in the auxiliary crucible precipitated at this auxiliary crucible.
- 8) The precipitate was emptied into a large metal pan. The precipitate contained in the pan was dumped into the converters by means of a crane. The converters, using hot-blast, turned the precipitate into molten ore. The molten ore was then poured into molds and left to cool off. The cooled-off product was the blister copper.
- 9) The slag floating at the auxiliary crucible flowed into a drainage. The cooled off slag was scooped up by a bucket-elevator system and

CONFIDENTIAL  
NOFORN

CONFIDENTIAL  
NOFORN

heaped up at the slag storage (38). At the storage, water drained out of the slag. The dry slag was hauled out by freight-cars and was dumped at vacant plots.

- 10) Before being left to flow into the drainage, part of the hot liquid slag from the auxiliary crucible was poured into the molds of bricks for housing construction and pavement purposes. When they were filled, the molds were taken by an electric car to a "cooling" place. The finished slag bricks were transported by train to needed places of North Korea.
- 11) The blister copper plates produced by the converters (39) were taken by means of electric cars to the Copper Electrolysis Plant.

#### 10. Copper Electrolysis

- 1) The blister copper plates brought from the Copper Smelting Plant (39) were put into copper electrolytic cells (27) by using a crane.
- 2) When electrolyzed, the blister copper plates dissolved into copper and slime. The copper was attracted to the copper sheets, each of which was inserted in-between two blister copper plates. The slime
- 3) The copper plates thus made were transported by train to the Taean Electrical Appliances Factory.
- 4) The slime flowed through pipes into the Slime Workshop. It is not known what processing was conducted at this workshop. [redacted] 50X1-HUM  
[redacted] gold was extracted from the slime at the 50X1-HUM  
Slime Workshop, and the remaining elements of the slime were taken to the Precious Metals Workshop (47). [redacted] selenium 50X1-HUM  
and some other metals were extracted from the slime at the Precious Metals Workshop.

#### 11. Zinc Smelting:

- 1) Zinc ores produced at various zinc mines of North Korea were transported by train to the Nam'po Railroad Station. The freight-cars laden with zinc ore were then pulled into the smelter by a locomotive owned by the Transportation Department of the smelter. The zinc ore was then unloaded at the unloading site (15).
- 2) By means of a crane (16) and a belt conveyor system (17), the zinc ore was transported to the Calcination Workshop (18).
- 3) The calcination furnaces turned the zinc ore into powdery form. The zinc powder was taken to the Liquefaction Workshop (14).

CONFIDENTIAL  
NOFORN  
-19-



CONFIDENTIAL

NOFORN

- 4) At the Liquefaction Workshop, the zinc powder was put in... with dilute sulfuric acid. The Zinc Precipitate was sent to the Electrolysis Plant (12).
- 5) The zinc precipitate was put into electrolytic tanks. The zinc plates produced by the Electrolysis Workshop were hauled by battery-powered transport cars to the Casting Workshop (3).
- 6) At the Casting Workshop, the zinc plates were put into casting furnaces and melted. The molten zinc was poured into molds of zinc blocks.
- 7) Some of the zinc blocks thus produced were transported by push-carts to the Zinc Flower Shop (brigade). The zinc blocks were turned into zinc flower by zinc flower furnaces.
- 8) An unknown amount of zinc blocks were exported to unnamed foreign countries.

Remuneration & Grain Distribution:

12. Wages: The basic monthly salaries of the personnel of this smelter were as follows:

Manager	7,000 Wŏn
Deputy manager	5,000 - 6,000 Wŏn
Department chiefs & plant chiefs	3,500 - 4,400 "
Workshop chiefs	2,500 - 3,500 "
Clerical workers	1,600 - 2,800 "
Grade 8 workers	2,600 - 2,800 "
Grade 7 workers	2,300 - 2,500 "
Grade 6 workers	2,000 - 2,200 "
Grade 5 workers	1,700 - 1,900 "
Grade 4 workers	1,500 - 1,600 "
Grade 3 workers	1,300 - 1,400 "

Newly hired, ordinary, civilian workers were given grade 3, but discharged soldiers were given grade 4 when hired. The employees of the smelter had to have worked one year or more to be promoted in grade. Because of meat allowance (200 Wŏn), clothing allowance (500 - 600 Wŏn), overtime allowance and contract premium, the earnings of some workers were sometimes two or three times more than their basic salaries. Some welding workers engaged in pipe-making work sometimes earned more money than the manager of the smelter. Workers engaged in hazard work, such as sintering workers, in-put workers, peephole workers, crucible workers, and electrolysis workers, were given an annual leave of 28 days. They spent 14 days at their homes, and the remaining 14 days at recreation stations and summer resorts, such as the Chugil Hot Spring, Wŏnsan Summer Resort, Okch'ŏn-dae Recreation Station, Uganjang Recreation Station, etc.

CONFIDENTIAL

NOFORN

-50-

CONFIDENTIAL

NOFORN

Grain Distribution: The per-day-capita grain distribution was as follows:

sintering workers	900 grams
in-put workers	900 "
peephole workers	900 "
crucible workers	900 "
electrolysis workers	800 "
repairmen	800 "
bricks workers	800 "
plasterers	800 "
casting workers	800 "
clerical workers	700 "
inspection workers	700 "
lathermen	700 "

The per-day grain distribution for each dependent was as follows:

old people and pre-school age children	400 grams
primary school children	500 "
middle school students	600 "
high school students	700 "

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Party & Social Organizations:

13. The Namp'o Smelter had the following Party and social organizations:

- 1) National Namp'o Smelter Factory Party Committee, Namp'o-si Party Committee, P'yongan-nampo Party Committee, Korean Labor Party. Of the 4,000 employees of the smelter, approximately 1,300 or 1,400 were Party members. The monthly Party membership dues was one percent of the Party members' monthly earnings for those who earned 500 Wpn monthly; two percent of the earnings for those who earned 501 Wpn to 1,000 Wpn monthly and three percent of the earnings for those who earned over 1,001 Wpn. ( ) Comment: The monthly Party membership dues for farmers were ten Wpn.)

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- 2) National Namp'o Smelter Factory Committee, Ministry of Metals Industry Committee, Korean Trade Federation. All workers of the Namp'o Smelter were affiliated with the Federation. The monthly due of the trade league was one percent of each worker's monthly earning. The Namp'o Smelter Factory Committee of the Korean Trade Federation also received instructions from the P'yongan-nampo Trade Federation Committee.

CONFIDENTIAL

NOFORN

-57-

CONFIDENTIAL  
NOFORN

- 3) National Namp'o Smelter Factory Committee, Namp'o-si Democratic Youth League Committee (DYL), P'yongan-nampo DYL Committee, Korean Democratic Youth League. Approximately 1,000 persons, whose ages ranged from 16 to 28, were affiliated with the DYL committee. [redacted]

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- 4) National Namp'o Smelter Factory Committee, Namp'o-si Democratic Women's League (DWL) Committee, P'yongan-nampo DWL Committee, Korean Democratic Women's League. Approximately 700 - 800 female workers of the smelter were affiliated with this DWL Committee. [redacted]

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Comment: All these Party and social organizations had meetings once or twice a month.)

#### Technical Training:

14. For the operation of the Zinc Smelting Plant of the National Namp'o Smelter, approximately 30 workers of the smelter, specially selected, were given on-the-job training at a certain zinc smelter in the Soviet Union [redacted] 50X1-HUM
- [redacted] Upon returning to the smelter, these men were appointed department chiefs, workshop chiefs, and shift chiefs according to their qualifications. These were the only employees of the Namp'o Smelter who were given technical training in any foreign country. [redacted] 50X1-HUM
- these men were given verbal castigation by some members of the Central Party Committee because they had spent their money so niggardly while in the Soviet Union and subsequently each one of them had brought home one or two suitcases of clothes which they bought with the money they saved. While being trained, they were each paid a few hundred rubles each month. As standing technical educational institutions, the smelter operated the Night Professional School (138) and the Daytime School (48). 50X1-HUM

#### Construction Plans:

15. The National Namp'o Smelter has been and will be reconstructed with part of the one billion-ruble aid fund of the Soviet Union. The one billion-ruble aid fund was appropriated for the construction of the following major installations of North Korea: 1) the Sup'ung Power Plant, 2) the P'yongyang Textile Factory, 3) the Pwanghai Iron Works, 4) the Songjin Steel Works, 5) the Central Broadcasting Station in P'yongyang-si, and 6) some other factories. The fund allotted to the smelter was probably the second or third largest.

[redacted] the following plants were being constructed at the smelter: 50X1-HUM

- 1) Fertilizer Factory (7): Three plants were being built by the workers of the smelter on a construction site, which was approximately 50 meters wide and 100 meters long. The construction of these plants started [redacted] 50X1-HUM
- [redacted] and, [redacted] only iron structures of the [redacted] 50X1-HUM

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plants had been completed. [redacted]

50X1-HUM

[redacted] the factory, when completed, would produce approximately 400,000 tons of chemical fertilizer (kind unknown) annually.

- 2) Sulfuric Acid Plant (19): This red-brick walled plant was under construction [redacted]. The plant was approximately 30 meters long, and 20 meters wide. There was no way of knowing the height because only the first story had been completed at that time.

50X1-HUM

50X1-HUM

- 3) Copper Sulphate Plant (21): [redacted] only the foundation work of this plant had been completed. The foundation was approximately 30 meters long and 20 meters wide. [redacted]

50X1-HUM

[redacted] It was not known how much copper sulphate the plant would produce annually when completed.

- 4) Cadmium Plant (13): This was a two-story structure, approximately 40 meters long, 20 meters wide, and six meters high, with a slate roof. The construction of the plant was begun in the summer [redacted] only the outside structure of the building had been completed. An unknown number of electrolytic cells were to be installed in this building. [redacted] approximately ten concrete electrolytic cells on the second floor of the plant. Each electrolytic cell was approximately 2.5 meters long, 1.5 meters wide, and 1.3 meters high. The concrete walls, approximately ten centimeters thick, were filled with pitch. The inside walls of the cells had lead linings.

50X1-HUM

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- 5) Room (11) for additional electrolytic cells, Zinc Electrolysis Workshop: This part of the Electrolysis Workshop was approximately 50 meters long, 25 meters wide, and five meters high. Approximately 160 electrolytic cells were to be installed in this quarter [redacted]. There already were approximately 160 electrolytic cells in the other half (12) of the Zinc Electrolysis Workshop.

50X1-HUM

- 6) Copper Electrolysis Workshop (27): [redacted] there were approximately 150 copper electrolytic cells in this workshop. Approximately the same number of electrolytic cells were to be additionally installed at this workshop in the future.

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- 7) Rolling Plant [redacted]

[redacted] one rolling plant was to be constructed at the smelter [redacted] It was not known what the plant would produce.

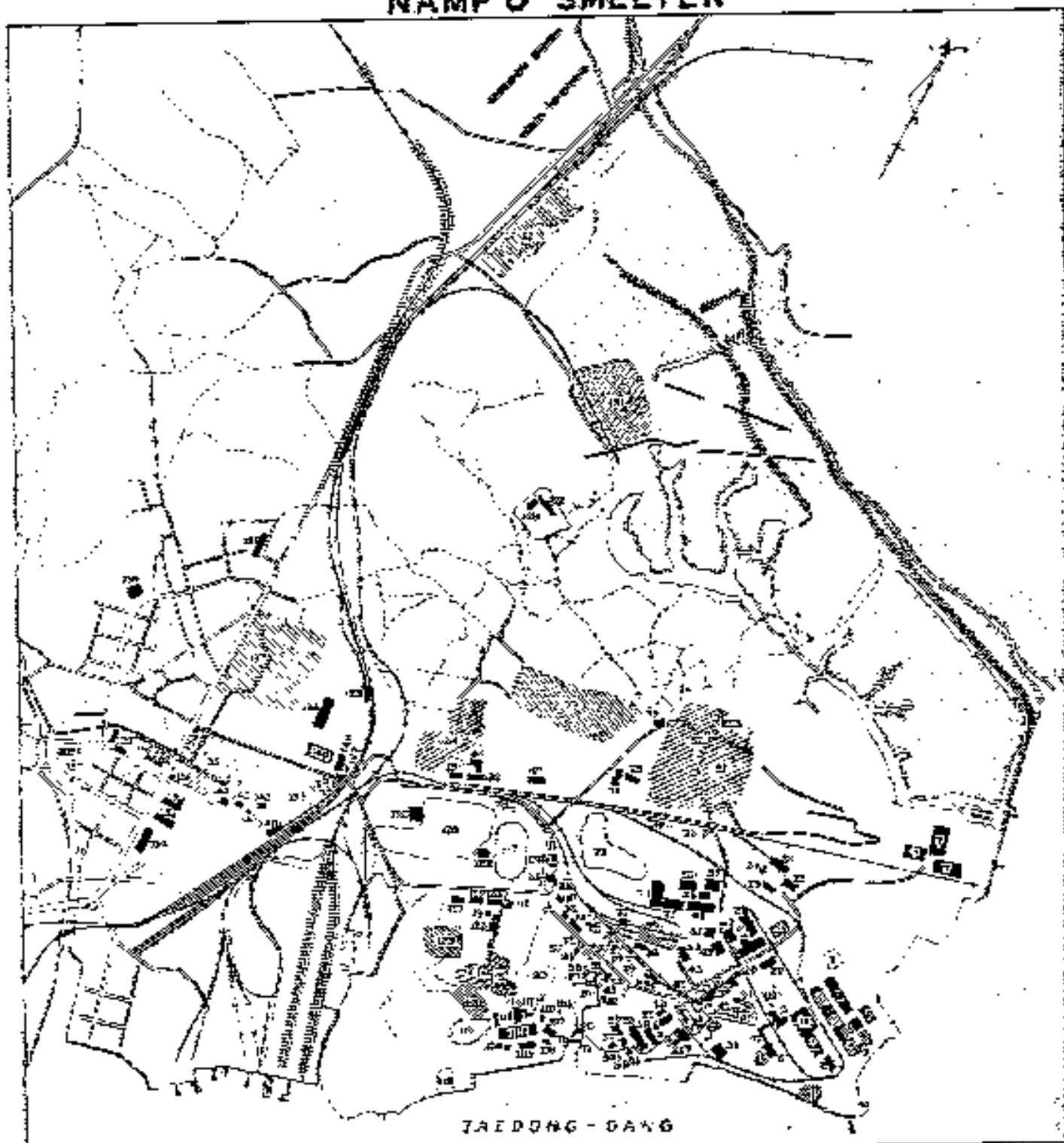
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NAMP'O SMELTER



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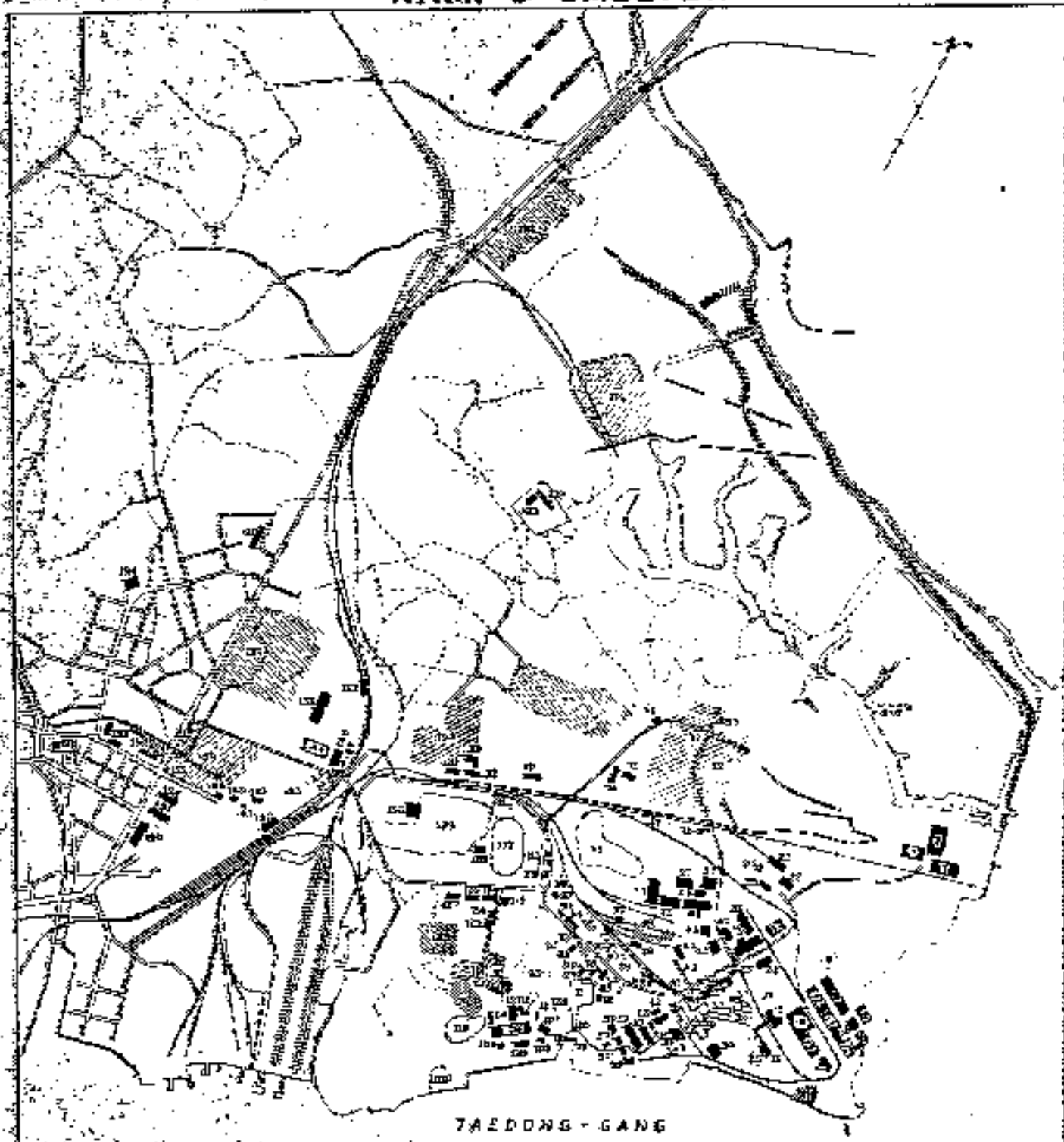
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MAP

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# NAMP'O SMELTER



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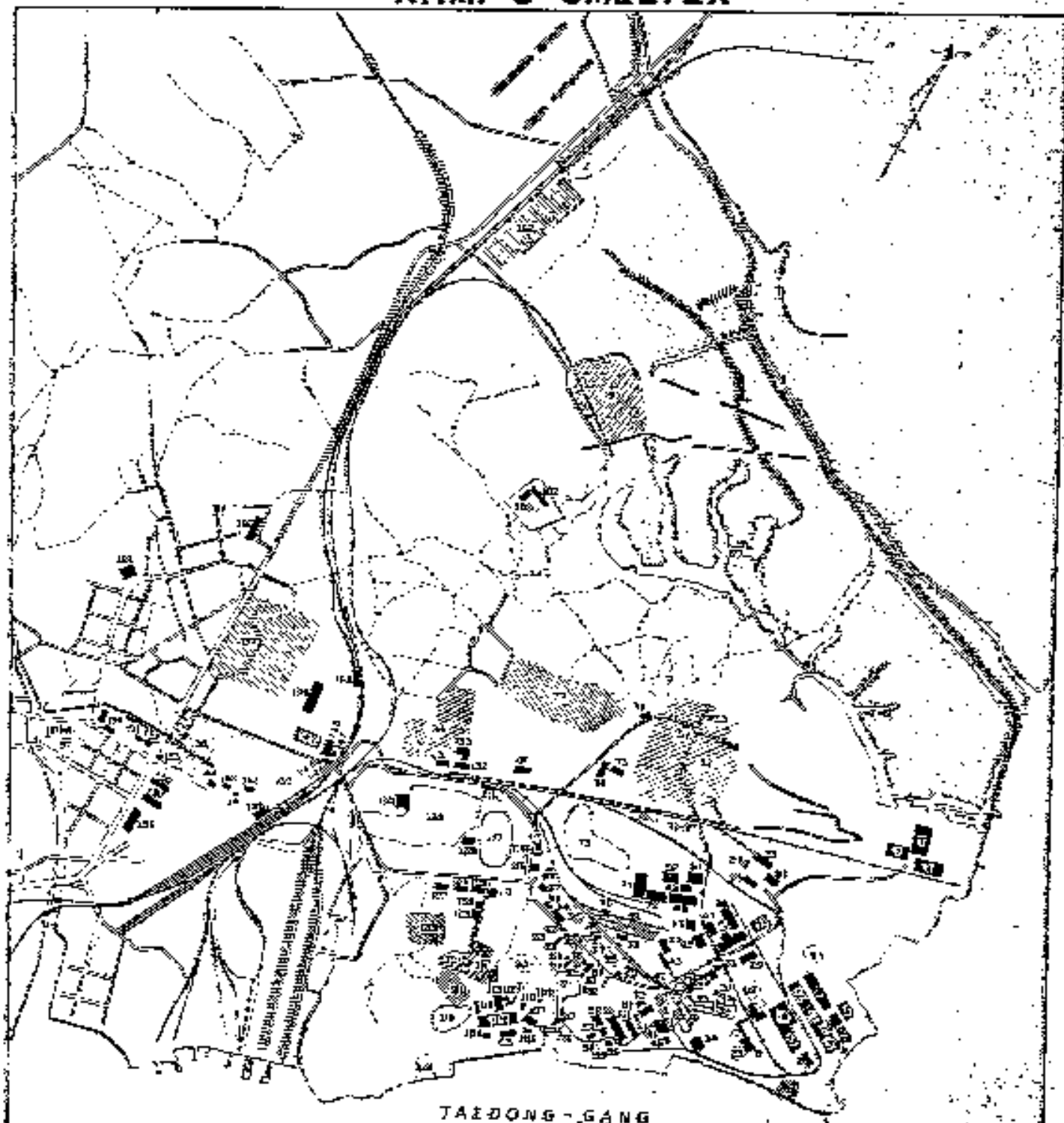
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# NAMP'O SMELTER



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CITY PLANS 1:2,500

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# NAMP'O SMELTER



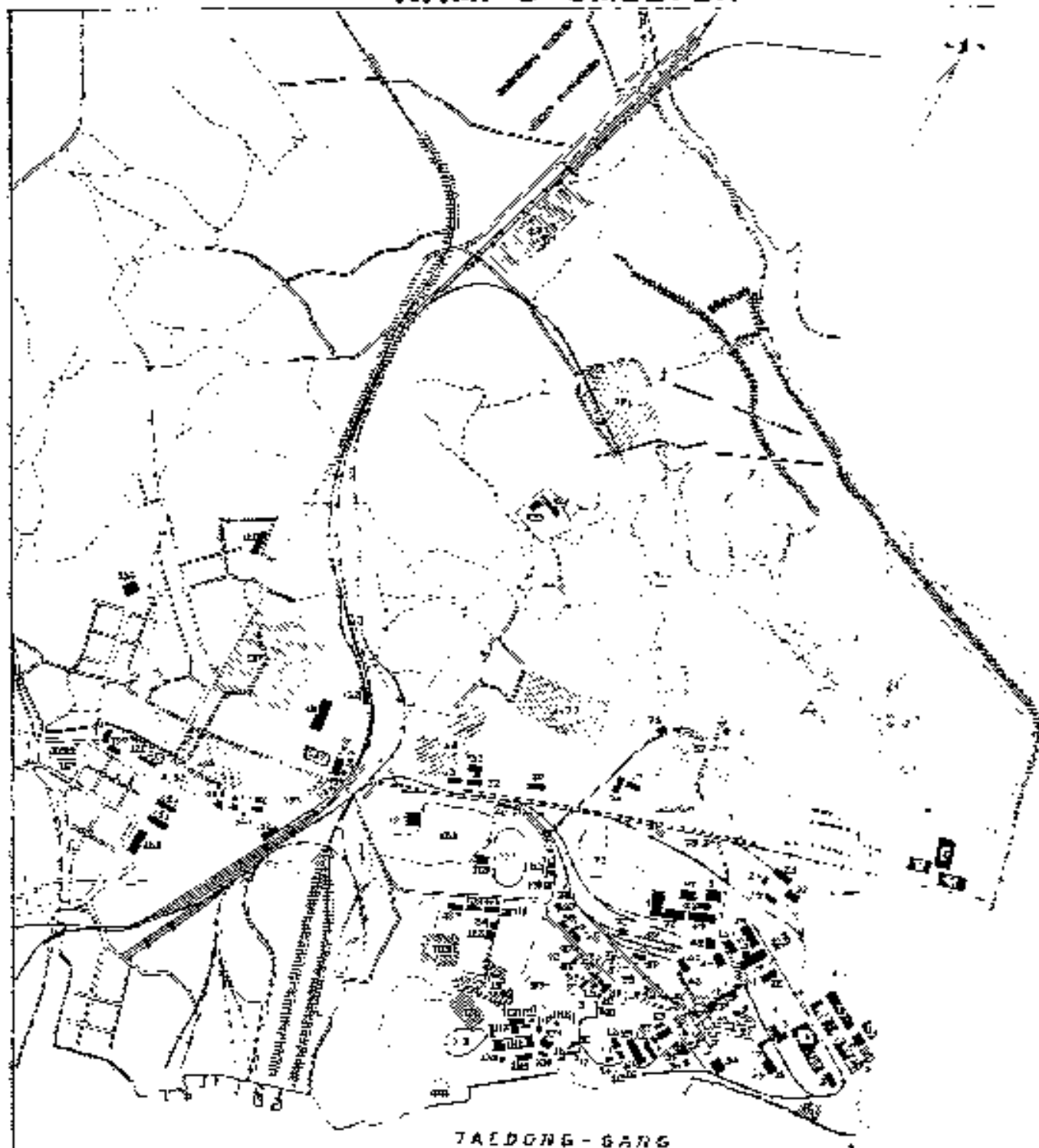
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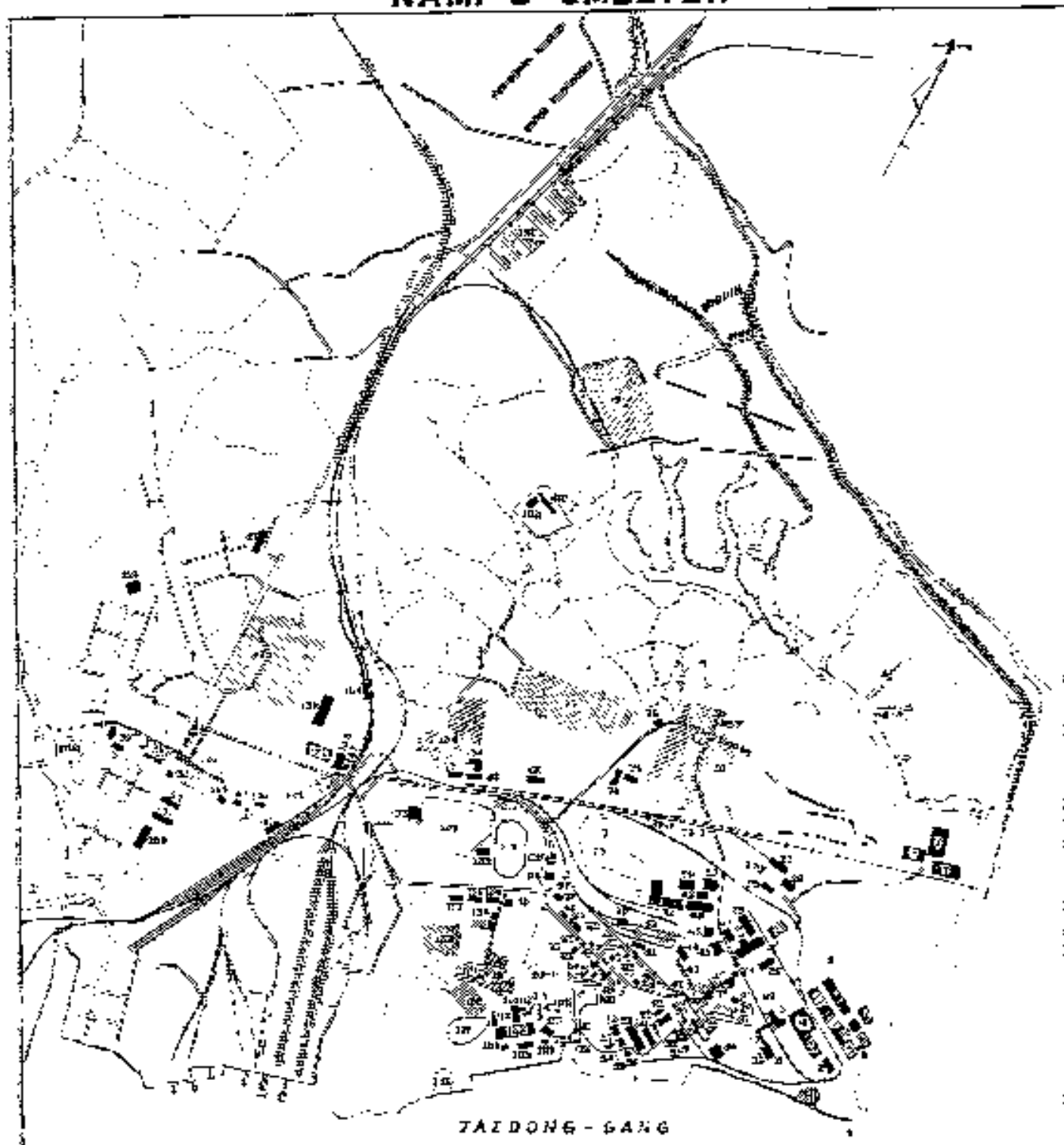
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